THE NINETEENTH CENTURY SERIES

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EDITOR
JUSTIN McCARTHY

Associate Editors
W. P. TRENT, LL.D. CHARLES G. D. ROBERTS
T. G. MARQUIS W. H. WITHROW, D.D.

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ECONOMIC AND INDUSTRIAL

PROGRESS OF THE CENTURY

BY

H. DE BELTGENS GIBBINS, D. Litt., M.A., F.R.G.S.

Oxford University Prizeman in Economics. Author of "The Industrial History of England," "The History of Commerce in Europe," "English Social Reforms," "British Commerce and Colonies," "A Shorter Working Day," "Industry in England," "History of Free Trade," Etc.

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PREFACE.

The purpose of this volume is to give to the general reader, as well as to the student, some idea of the progress and conditions of industry and commerce during the nineteenth century. The author endeavours to treat his subject in such a manner as to interest the man of business as well as the lover of history, and though, of course, a work of this kind depends upon facts and statistics for its basis, yet the reader will not be bewildered by long tables of figures, but the necessary items will all be explained in the course of the text.

The volume opens with an account of the Industrial Revolution which so completely changed the course of industry and commerce at the beginning of the nineteenth century. As it began in England, that country is necessarily treated first, but throughout the work proper attention is given to the progress of the United States, Canada and the British Colonies, France, Germany, and the different states of Europe, and in fact the chief commercial nations of the world. Passing, then, from the Industrial Revolution, the state of commerce and industry in England, America, Europe, and the Colonies is discussed. Next comes a section on the terrible Continental warfare which, under Napoleon I. almost arrested economic development at the commencement of the nineteenth century; and, afterwards, the growth of each country in the years of peace is noted. The United States, England, and Europe have their progress recorded up to about the middle of the century.

From this point the work proceeds in various chapters to show the improvement in the condition of the working classes in various countries, the development of Agriculture, the extraordinary growth of the American Republic, and of the British Empire, the wondrous expansion of International as distinct from merely National trade, down to the close of the nineteenth century.

As the work is meant for the English-speaking races, special attention is of course given to England, the United States and the British Colonies, but the other commercial nations of the world are by no means neglected. It is therefore hoped that this volume will afford an interesting summary of civilised progress in the arts of industry and commerce in a century in which industry and commerce have taken marvellous strides.

H. DE B. GIBBINS.

LIVERPOOL.

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ECONOMIC AND INDUSTRIAL PROGRESS OF THE CENTURY.

CHAPTER I.

INTRODUCTORY.—EVOLUTION AND REVOLUTION IN INDUSTRY.—EXAMPLES FROM AGRICULTURE.

ANY attempt to tell the story of the industrial, commercial, and economic progress of the Nineteenth Century must necessarily take into account the conditions of the century which preceded it. All history is development, and none the less so because that development may be hastened or arrested by sudden historical changes which bear the same relation to the gradual course of general history as do the cataclysms and convulsions of nature to the general development of physical laws. This is particularly the case with modern industry, nor will the comparison with natural laws seem inapt when we consider how closely all human evolution is linked together, and how the art and science, the laws and religion of one century are but the natural outcome of those of the period preceding it. We perceive, for example, if we search into the causes which created the great and sudden industrial changes of our time that these had been working beneath the surface for many previous years; we know for instance that the England of Queen Victoria is the natural outcome of the England of Queen Elizabeth; we know that the vast international trade of New York and of London is the proper development of the voyages of Columbus and Raleigh and the Pilgrim Fathers; we know that the forces which move the mighty engines of industry and the complicated machinery of manufacture have their roots in the sciences which our forefathers worked at and apprehended dimly in the ages that are past; we know, in fact, that in one sense there is no new thing beneath the sun and that all that is new is but the evolution of that which was old.

But it is also true that into the course of this evolution there come strange and sudden changes; the art and industry of one period are suddenly rendered obsolete by the rapid development of the next; and the slow growth of commerce, or government, or any human institution, is suddenly hastened and expanded by a force which seems different from all that has gone before and which bears no longer the aspect of gradual development but of revolution.

Some such revolutionary force as this was in operation towards the close of the eighteenth century. We see it in politics in that great human cataclysm, the French Revolution; or again, in a milder, but none the less determined, form in the War of American Independence. We see it in literature and in art; we see it in religion and in social culture; and we see it also in industry and commerce. There happened towards the close of the Eighteenth Century in England a revolution in manufactures and in agriculture which was none the less effectual because it was silent; and which has had none the less influence upon the lives of nations and of individuals because it was not signalised by the din of battle or the pæans of victory. It was a revolution which has completely changed the face of modern Europe and of the New World, for it introduced a new race of men—the men who work with machinery instead of with their hands, who cluster together in cities instead of spreading over the land in villages and hamlets; the men who trade with those of other nations as readily as with those of their own town; the men whose workshops are moved by the great forces of Nature instead of the human hand, and whose market is no longer the city or the country but the world itself.

For modern commerce has outgrown with marvellous rapidity, in a hundred years or little more, the narrow and straitened limits that bound it round in the eighteenth century. It has become world-wide instead of merely national; it has pressed into its service the forces of steam and electricity that were unknown to the men of a hundred years ago; and by the action of these great forces it has necessarily developed into a system that draws its nourishment from the ends of all the earth and necessitates a wider and deeper outlook into the resources of the world as a whole and of mankind at large. These facts have become to us of the nineteenth century a mere commonplace, and yet if we could transport ourselves back in thought to the mental and material conditions of our not very remote ancestors we should stand amazed at the different conditions of life and industry that have developed in the comparatively short space of a hundred years.

To understand some of this vast difference, let us take a specific instance and study it more closely. We look at the industry of England as it was in the days of Adam Smith. His famous work, *The Wealth of Nations,* was published in 1776, on the eve of the Industrial Revolution. Until this period the general character of industry in England presented very much the same features as it had done in the Middle Ages, or even earlier. This was especially the case in agriculture, for modern methods of cultivation were almost unknown, or were only just being introduced here and there by a few enterprising pioneers. Agriculture and manufacture alike were, in fact, pursued by primitive methods; the farms were small and the manner of cultivation unscientific. In many parts of the country, indeed, there still remained the old "common fields" which had existed in that fashion since the days of the Norman Conquest, and before it; and these were cultivated by peasants, who, though no longer called "villeins" in the language of the Norman-English, had in many respects not progressed much farther than their villein ancestors.

Traces of these common fields persisted into the nineteenth century, and as they formed at one time an important feature of village economy they are worth some passing mention. They very often formed a large portion of the land surrounding a village, in addition to the private land of the lord of the manor, or to the other pieces of land rented for private purposes by individual tenants. The common lands were not mere pieces of waste ground or pasture, where sheep and cattle might graze freely, but were large open fields, not divided by hedges and ditches, but marked out into strips and patches, and thus somewhat resembling in appearance the peasants' plots of land that one sees lying open throughout the Continent of Europe. But the peculiarity of the system was that each villager had his strips or patches of land in different parts of the common field, and not all close together. This was doubtless a relic of primitive custom, but it was a cause not only of endless inconvenience but of great backwardness in the science of agriculture. Disputes were constantly arising [illegible] the boundaries of each strip, or the method of [illegible], and there was no opportunity for any one [illegible] cleverer than his fellows to follow out any course of his own, or to indulge in any agricultural experiments.

Of course, during the eighteenth century, these old common fields, with their minute parcels of land, were gradually enclosed and turned into the trim and well-ordered private fields of the present day, with their hedges and ditches defining a clear and well-marked boundary; but the old system was hardly yet dead at the close of the eighteenth century, though rapidly becoming obsolete. The last century, however, was remarkable for the growth and progress of agricultural methods in the hands of a few pioneers, and for the improvement of cultivation, pasture and stock-rearing alike. It was the beginning, also, of the age of the capitalist-farmer and large holdings in place of the peasant cultivator and his tiny patches. Indeed, without capital and large farms it is difficult to see how improvement could have taken place, at any rate with such rapidity. The work of men like Jethro Tull, "Turnip" Townshend, Bakewell, Arthur Young and Coke of Holkham, men whose names are household words in the history of English agriculture, would have been impossible under the old system.

Of these pioneers, Tull was the inventor of several improvements in agricultural implements and the exponent of drill-husbandry. Townshend introduced into Norfolk the cultivation of turnips and artificial grasses—so recent are these now necessary features. It was the alteration of these crops with grain-crops that made possible the previously unknown system of "rotation of crops," so familiar now to every farmer as to be almost axiomatic; and this rotation enabled farmers, who never suspected the future discovery of chemical manures, to observe the golden rule of never taking two corn-crops from the same land in succession. This new plan had another effect. Formerly it had been necessary to allow land, when exhausted by grain crops, to lie fallow, but now the new rotation system largely diminished the area of fallow land, thereby at the same time allowing the land to support more live stock, while the use of turnips and other winter roots and of artificial grasses enabled them to feed more stock through the winter. This increase in the number of live stock kept naturally increased the farmer's command of manure and thus again enabled him to enrich the soil.

Thus the improvements on the land and in the rearing of stock mutually aided one the other, and soon the art of the grazier became more important than ever before. Bakewell was perhaps the first really scientific breeder of sheep and cattle, and the methods which he applied to his famous Leicester sheep and Leicester longhorns were soon followed by other breeders throughout the country. The grazier's art became, too, more and more important in view of the rapid increase which was taking place in the population of the British Isles, and as population advanced sheep and cattle became more and more in demand for their flesh as food, rather than (as before) for their wool and hides for the cloth and leather trades. Thus, both corn-growers and cattle-breeders were encouraged in their agricultural improvements by the increasing demand of the masses for their produce.

There was moreover another cause for the progress of agriculture in the fact that owing to foreign wars, and especially the great Continental War that lasted from 1795 to 1815, England was excluded from foreign markets and was compelled to supply the food of the rapidly growing population of the new factory districts from her own resources. Progress was also aided, as already indicated, by the labours of Arthur Young, the great agricultural writer, in collecting and spreading information upon the subject to which he was so ardently devoted. He advocated the system of large farms worked by men with abundant capital, and many landlords, inspired by his writings and exhortations, placed themselves at the head of the movement and expended money upon farm buildings and agricultural improvements, while, by granting long leases to their tenants, they gave them comparative security of tenure and increased their interest in their work. It is important to notice also, as part of the same movement, that agricultural shows (now so popular a feature of rural life) and agricultural societies were inaugurated, and the Board of Agriculture was founded in 1793 to look after the interests of the oldest and greatest of English industries.

At the same time another very important change took place. Not only were the old common fields enclosed, but so also were those tracts of land which we understand as "commons" in a wider sense—the land, that is, which was available for public pasture, where the cottager might graze his cow or few sheep, or let his geese pick up a living. The process of enclosure, both of the fields with their strips and patches of peasant holdings and of the commons with their pasture, proceeded with great rapidity. Between the years 1760 and 1820 more than 6,000,000 (six million) acres of land were enclosed in one way or another. This change, though undoubtedly beneficial to the interests of agriculture as a science, nevertheless produced a most severe crisis.

Enclosures had occurred before, as every student of English industrial history is aware, and notably in the Tudor period in the reigns of Henry VII, Henry VIII, and Edward VI, which were marked by much social discontent arising from this cause, as in the case of Kelt's rebellion in the year 1549. But they had never been made upon such a wholesale scale as at the close of the eighteenth century, which came to an end amid much misery in the agricultural districts. The consolidation of so many small holdings into large farms and the reduction of thousands of small farmers to the position of labourers dependent upon their day's wages for a livelihood, could not fail to cause acute distress to those who thus found themselves living under totally new conditions. The old-fashioned yeomen who had been for centuries the backbone of English country life, men of the same class as had followed Henry V to France and won the battle of Agincourt, these and the peasant proprietors became rapidly extinguished, and the labourer became practically divorced from the soil he tilled. That is to say, he no longer tilled his own land, or land on which he had certain rights of ancient custom and tradition; he became merely a hireling upon the land of a capitalist farmer, and his only connection with the soil was that he drew for his work upon it a by no means large amount of wages.

It cannot be denied that on the whole the change was beneficial to agriculture, and that even if modern improvements had been possible under the old conditions, the progress that has since been made could not have taken place without the application of more capital than small tenants could be expected to possess, or without experiments for which the opportunities afforded by large farms were absolutely necessary. But we may stop for a moment in the busy record of progress to regret the old days and the old people, the sturdy yeomen and the humble villager with his little patch of land, and it is no mere sentiment that compels us to wish that, though transitions must come in every industry, and though the great Industrial Revolution that has worked itself out during the nineteenth century was inevitable, if industrial progress was to be continued, yet it might have been accomplished without causing so much distress and misery to so large and so important a part of the national community.

CHAPTER II.

MANUFACTURES IN ENGLAND AT THE BEGINNING OF THE NINETEENTH CENTURY.

We have treated the changes in agriculture first because agriculture is the oldest and even now is almost the greatest of British industries. It is the industry upon which ultimately all others must rest, for it is the industry which of all others deals most directly with Nature, and which can subsist alone without external aid. It is primitive and it is perennial, for it supplies the most imperious of human wants, the need of food. The manufacturing industry, though necessary to the well-being of a nation, may yet exist for ages in a very rudimentary form before the wants it fulfils are deeply felt. In England itself, manufactures barely existed at all till the reign of Edward III, three hundred years after the Norman Conquest, or they existed only in an elementary and primitive state. The farmer reared sheep long before he knew how to manufacture the wool they grew. But in the present age we are inclined to underrate the importance of agriculture and the necessity of supporting it in a flourishing condition. That is why in any record of industrial progress it is necessary to go back and realise the high place it took in the economy of a past age and how it underlay all national prosperity. A hundred years ago it was impossible for a nation to obtain its food from the ends of the earth, and to rely more on foreign than on home produce. The vast areas of the American West or the provinces of Northern India had not been opened up; and even if they had been, there were few facilities for transporting grain and meat for any great distance. Hence all nations were far more self-sufficing than some of them are now, and the position that agriculture occupied in relation to manufactures was much more important.

But there is another reason for dwelling at some length upon this particular industry. It was not, as now, a separate and distinct branch of livelihood, so separate and distinct that it is almost impossible to think of a factory hand being an agriculturist as well. On the contrary, nothing was more common than for the two employments of agriculture and manufacture to be united in one family and even in one person. There were no factories full of machinery, where men are herded together all day long and are employed in minding one special piece of mechanism and in doing nothing else. There were no large towns where, at the close of their day's toil, these same mill hands retire into a little cottage in a row in some back street and merely rest or drink. There were no factories and no mill hands, but we must not think there were no manufactures; on the contrary, there was a very widespread manufacturing industry, not large perhaps according to our modern ideas, but we may certainly use the term widespread, because it was literally spread over the length and breadth of the land. Far from being confined to the large towns in certain districts, it was carried on in small places, country towns, villages and cottagers' own houses. In fact, manufacture was carried on under what is known as the "domestic" system, as opposed to the factory system of more recent times. It was this fact that enabled the two industries of agriculture and manufacture to be pursued side by side, and which prevented that sharp differentiation of artisan and agricultural labourer to which we are nowadays so accustomed. The domestic system was very general in England, and indeed in all countries, before the changes were effected which we describe by the name of the Industrial Revolution. Until the introduction of any but the very simplest machinery, manufactures had been closely associated with agriculture, and the craftsmen spun and wove with spinning-wheel and loom in their own houses, to which very often a small piece of land was attached. At one time the weaver had furnished himself with warp and weft, worked it up, and had taken it to the market himself for sale when ready; but by degrees this system had become too cumbrous, and the merchants themselves gave out the yarn to the weaver, or in other cases got together a few looms in a village and had them worked under their own supervision. We have, however, so late as 1793, from Arthur Young an account of the "grass farmers" (as they were called) near Leeds in Yorkshire who used to buy or grow the wool they worked, and go through every process of converting the wool into finished cloth, and then go to market personally to sell it. Of course they carried on farming also. Generally speaking, a distinctive feature of the old form of industry was that the weaver or cloth-maker was also engaged in some agricultural work, and this explains the comparative comfort of the operatives in this cottage industry. That they were well off—at least before the agricultural changes alluded to above—is the testimony of

Adam Smith in 1776. Then, of course, commercial fluctuations were few; for the home market—then the chief market and not as now very often only a secondary consideration—was fairly steady, because its wants were well known and did not vary very greatly. Manufacturers, by which were meant not the capitalist owner of a huge block of mills, but the craftsmen who personally made their cloth with their hands, worked not so much for an unknown and rather vague "market" in the modern sense, as for some particular customer or some well-known local demand. Instead of the manufacturer going to the merchant, the latter often came to the manufacturer. This was the case with the London merchants who came down to the North country manufacturers, looked after their cloth, paid for it at once in cash, and took away their purchases themselves. The large orders given and purchases made by merchants at the present day were then almost unknown. Neither the merchant nor the manufacturer was often a large capitalist. In fact, it is noticeable that capital existed in smaller amounts but in a larger number of hands, and, like the manufacturing industry itself, was more diffused.

But even under these simple old conditions, trade was by no means so restricted and hampered as one might be led at first to imagine; on the contrary, there was, in spite of bad roads and what we now consider very imperfect means of communication, considerable intercourse between various parts of the country for manufacturing purposes. This intercourse was facilitated by means of the local fairs and weekly, monthly, and annual markets which in those days flourished far more than at present, and to which large numbers of buyers and sellers came to transact business. At the fairs of Lynn, Boston, or Gainsborough, all of which were celebrated for their wool sales, manufacturers came to buy wool, which they brought home and sorted, and then sent it out to the handcombers. The wool, when combed, was again sent out, and often for long distances, to be spun. Indeed, it is surprising how far—or at least how far for those days—the material would be sent. It was quite frequent to send it from Yorkshire into Lancashire, so that packhorses laden with wool or with stuff in process of manufacture were always to be met at the close of the last century slowly plodding in long gangs over the hills which form the boundary between these two counties. Silk was even sent from London to Kendal in Westmoreland. The usual method for one of the larger manufacturers, when the spun yarn had been received back, was to entrust it to some local shopkeeper to "put out" among his neighbours for weaving, after which it was once more brought back to the manufacturer to be dyed and finished—processes which often involved its being "put out" again. Finally the finished cloth was sold at the rooms specially set apart in a town for this purpose, commonly called "piece halls," such as existed at Leeds, Bradford, Halifax and many other Yorkshire and Lancashire towns.

From this it will be seen that there was considerable diffusion of work under the old system. No doubt a good deal of time was wasted in the material being sent backwards and forwards at various stages of its existence, and the modern idea of bringing all the various processes together as far as possible in one block of buildings was unknown. But the old way also had its advantages. Things were done with greater leisure, more time was taken over them, and the work was more thoroughly performed. It was not necessary for all the workpeople in one industry to be collected close together or to be crowded into large factories. Their life was more natural; and, though they worked as the factory hands of to-day do, they did not, like them, lose touch with the country, nor were they confined within rows of bricks and mortar, knowing little or nothing of green fields and open pastures and the pleasures of a garden or a plot of cultivated land. The agriculturist and the artisan were separated by no hard and fast line, but each partook to some extent of the conditions of the life of the other.

It is for this reason that before we pass on to the great changes which occurred in the manufacturing industry, it will be well to pause for a moment and look at a picture drawn for us of those long past days by another who himself had heard at first hand of the life which he describes. "The village combined agricultural with industrial occupation; the click of the loom was heard in the cottages; the farmyard and the fields, the cottages and the allotment gardens made a delightful picture of rural life. The land was mainly freehold; the farmers were of the yeomen class, and not infrequently combined the calling of a clothier or master manufacturer with that of farming. The farmer's wife, though born perhaps 'with a silver spoon,' was industrious and thrifty; with her own hand she would churn the butter, make the cheese, cure the bacon or ham, and bake the bread: her daughters would assist in spinning the yarn or knitting the stockings; and from the clothes woven under their own supervision they would, with the assistance of the village dressmaker, make their own dresses. If you entered one of the cottages you would find the master of the house in the 'chamber,' sitting at the loom busy throwing the shuttle, weaving a piece of cloth; his daughter would be sitting at the wheel, spinning weft, and the goodwife would be busy with her domestic duties. One son would be out working on the land for the farmer, another would be working on the weaver's allotment. Down in their little allotment plot they grow their own vegetables, and a little crop of oats which they have ground into oatmeal for making their porridge; they also keep a pig or two and provide their own bacon and ham. They are on good terms with the master manufacturer—that is, the gentleman who gives them warp and weft to weave into cloth. He is also a large farmer, and in the hay-harvest and corn-harvest they all have a fine time in the fields, giving a hand to the cutting, the harvesting, and the home-carrying of crops. Their chief articles of food are provided from the land immediately surrounding them. Their means of subsistence and comfort are not to be computed by the amount of their earnings in money-wages but by the produce of their bit of land, and the ease and cheapness with which they can obtain other necessities."

Thus it will be seen that the old domestic system had, at least for the working classes, many advantages; and though the benefits of the Industrial Revolution have been many and great, yet the balance of happiness is not all on one side; and though perhaps on the whole the general result of modern progress may have been to produce better conditions for a large number of industries, there are many single features of the older system which will certainly bear comparison with those of to-day. It is certain for instance that the violent fluctuations of modern trade were, if not unknown, at least much less, both in frequency and in magnitude, than at present. Work was more regular and not so hurried; fashions did not change so quickly, and the market for homespun fabrics was always steady and assured. Then again, though in some cases wages were less in actual money value than they are to-day, the money received by a workman was only a part of his general income, and it was supplemented by work on his own land, or by the then common practice of keeping a cow, a pig or some geese that could wander on the open commons. The prices of food also were certainly less than they are now, in spite of the fact that we have laid all the countries of the earth under contribution to send us food stuffs. Rent, of course, was much cheaper, and Arthur Young gives the average rent of a cottage in the Midland and Northern Counties as only about sixpence halfpenny a week, and this often included a piece of land with the cottage. Although the poet's vision of "contentment spinning at the cottage door" has probably rarely been realised, it was more likely to have been realised just before the Industrial Revolution than for some time after it.

CHAPTER III.

THE INDUSTRIAL REVOLUTION.

(1) MACHINERY.

THE beginning of the Industrial Revolution was signalised by four great inventions, though the inventions of machinery alone, without the discovery of a new motive power to work it, would never have produced such rapid and extraordinary results. In the year 1770 a carpenter of Standhill near Blackburn (Lancashire), who was also a weaver, patented what is known as the "spinning jenny," *i.e.*, a frame with a number of spindles, side by side, which were fed by machinery, and by means of which many threads might be spun at once, instead of only one, as had been the case with the old spinning wheel worked by the foot and hand of the spinner. The inventor, James Hargreaves, at first used only eight spindles, and thereby of course was enabled to spin eight times as much yarn as before; but afterwards sixteen or thirty spindles were used, and even as many as one hundred and twenty. The next year (1771) was marked by Arkwright's invention of the "water frame," which was also an invention to facilitate the process of spinning, deriving its name from the important fact that it was worked by water power. This use of water power marks a most important step in the history of industrial progress. In its way, it is even more important than the use of steam, for it is the first occasion that we find some motive power other than the human hand applied to the processes of textile manufacture. For untold ages mankind had gone on spinning and weaving with the wheel and loom worked by their own hands. Now a great inventor steps forward and shows them how to harness the forces of nature to machinery made by man and thus provide a motive power that is practically inexhaustible. The invention of the use of steam may perhaps seem more wonderful at first sight, but it was an advance of degree only and not of kind, just as the use of electricity is only an advance in degree upon the use of steam. But it is the use of any external motive power at all, and not the use of any one particular kind of motive power, that marks the step of progress, and that is why the use of water power, though it did not continue for very long, marks an epoch in industrial history. But a few years later the inventions both of Arkwright and of Hargreaves were superseded by that of Samuel Crompton, who, it may be noted in connection with what has been said above, although a spinner, was the son of a farmer near Bolton (Lancashire), and combined the processes of manufacture with those of agriculture. His machine, as being a sort of combination of two previous inventions, was called "the mule," and by that name is still known, because it not only drew out the first twist of the raw material into a loose thread by an adaptation of the water frame, but it passed it on to be finished or twisted into complete yarn by an adaptation of the spinning jenny. This invention resulted in a remarkable increase of productive capacity, for nowadays no less than 12,000 spindles are sometimes worked by it simultaneously under the guidance of only one spinner. The date of its invention is 1779, and it was so successful that early in the nineteenth century (1811) more than four and a half million spindles worked by mules were in operation in English factories.

But these three inventions, useful as they were, only accelerated the processes of spinning. There still remained the process of weaving, and something was required that would do for the loom what had already been done for the spinning wheel. It took some time, however, before this was accomplished, and the nineteenth century was well begun (1813) before an invention came into use that could fulfil this purpose. This invention was the work of a clergyman of Kent, Dr. Edmund Cartwright, who patented a "power loom," as it was called, as early as 1785; but he found all his attempts to work it successfully unremunerative, and it had to undergo many improvements before it began to be much used. But gradually, in the first quarter of this century, it was introduced into one mill after another, and enabled the weaving process to be done by machinery aided by external motive power, thus placing the weaver on the same terms as the spinner. For at the beginning of this era of invention, it was only the spinners who benefited; and however fast the fibres could be spun into yarn by the new machines, the yarn could only be woven into cloth by hand. That is why the memory of the old hand-weavers in their cottages has been perpetuated so long in certain manufacturing districts, where the old hand looms clicked on nearly half-way through the nineteenth century.

It is noticeable that the new inventions were introduced first into the cotton trade and only later into the woollen, and it was remarkable to see the rapid increase that immediately took place in the cotton trade in England as soon as the new inventions were used. Thus, from a little over one million pounds weight of raw cotton imported into Great Britain, the import rose between 1771–75 to over four million, then was quadrupled to eighteen million pounds weight in 1785, and no less than fifty-six million in the year 1800.

But, as we have already remarked, there was yet another discovery to come which was to increase the value of the inventions of new machinery to an almost incalculable extent. Though new machines were invented, there yet remained the question of how to supply the motive power to work them. This was first answered by using water power, as we have seen Arkwright did in his mill at Cromford on the River Derwent in Derbyshire. It was the use of water power that caused the first factories to be placed by the sides of the numerous streams that run down the slopes of the Yorkshire and Lancashire hills and moors, and in other parts of the country where water power was readily available. Any one who is rambling among those districts may even yet often see the crumbling ruins of a mill by the side of some mountain brook, now long deserted since the days when water power became old-fashioned and cumbrous. Water was only used for a comparatively short period as a motive force. In the year 1769, which, as has been remarked by industrial historians, was the same year that witnessed the birth of those great military heroes, Wellington and Napoleon, James Watt took out his patent for the steam engine. His was, of course, a stationary engine worked by steam, and the invention was first applied to the pumping of water out of mines. But the principle of the use of steam power was gradually applied to other industries, and in the year 1785 it was first introduced into a factory, the manufacturer who had the foresight to do this being a cotton-spinner who had some works at Papplewick, a little place in Nottinghamshire. It will thus be seen that it was again the cotton trade that first benefited by the invention, and that the benefit was unmistakable may be seen from the fact that in the fifteen years soon afterwards (1788–1803) the cotton trade of England was trebled. It must not be imagined, however, that the new discovery of the use of steam and all the before-mentioned inventions in machinery came into use all at once. The nineteenth century had well begun before either the old hand looms had become obsolete or the mills worked by water had ceased to run. An author who dealt with industrial topics, W. Radcliffe, writing in the year 1828 in his book entitled "The Origin of the New System of Manufacture commonly called 'Power loom weaving,' and the purposes for which this system was invented and brought into use fully explained in a narrative," refers to these revolutionary changes as still a novelty; though he goes on elsewhere to tell how manufacturers in their haste to make use of the new machinery put the machines into old barns and cart houses which were used as impromptu factories, and rapidly ran up new mills. Still, when Radcliffe wrote, the first quarter of the century was quite complete; in some districts there were even then still survivals of the old domestic system. Readers, therefore, who may think we have spent too much time over the old days before our present limit of the nineteenth century, will see that when it opened much of what has been described as belonging to a previous century was still existing, and that it would be impossible to understand the development of industry and commerce during the last hundred years if we did not take account of changes that certainly began before 1800, but which were not complete till years afterwards.

CHAPTER IV.

THE INDUSTRIAL REVOLUTION (*continued*).

(2) COAL.

So far our attention has been directed only to the inventions in the textile trade. But we have incidentally alluded to another branch of industry which was the first to be affected by James Watt's discovery of how to use the force of steam. It has been stated that he first applied it to an engine to pump water out of mines. This fact brings us to a most important chain of events. The development of the coal industry was at once the cause and effect of the new factory system. It was the cause of it because the use of coal to heat the boilers of the new engines showed how easily the new motive force could be supplied; it was the effect because the sudden increase in the demand for coal naturally caused greater energy to be thrown into the development of coal-mining as an industry. It became a prime necessity of the new factory that it should be set up on a coal field or somewhere near a convenient supply of coal. It was no longer any use to build mills in remote country districts for the sake of the water of some adjacent stream. The new steam mills soon proved too much in trade competition for the old water mills. Therefore, instead of factories being scattered up and down the country as had formerly been the case, and instead of the workpeople also being dispersed in various districts and doing their work in separate cottages, it now became necessary to concentrate the buildings near the supply of coal and to gather together the workpeople round the new machinery. It also became equally necessary to prosecute a vigorous development of the coal mines and to get more miners to work in them. A very great difficulty of the coal mines, before Watt's steam engine was used, was how to pump out the water that is always accumulating in the workings, and it was impossible to mine very deep or very far. But the new steam pump soon made a vast difference, and enabled work to be done more easily and with less danger. Steam power was used also not only to clear the mines of water, but to assist in sinking deep shafts, and of course in bringing up the coal, when dug, from the bottom of the pit. Before this, it had often been impossible to sink shafts to any great depth, and those mines were most easily worked which happened to lie upon a slope so that an entrance could be made by tunnelling in the side of a hill. As for raising coal to the surface, that was in many cases performed laboriously by women, girls and boys, bearing heavy loads of it on their backs and climbing up ladders painfully to the mouth of the shaft. These slow and troublesome methods, which involved severe and often unnecessary toil upon the miners and those who helped them, persisted in many cases till well into the present century, and long after steam power had been in use for the various operations of mining, the condition of the miners, and especially of the women and children connected with them in their work, was terribly degraded. The Report of the Royal Commission on Mines in 1842 gives some very sad instances of the conditions which even then prevailed.

Fortunately since then there has been great improvement, as indeed ought to be expected, considering how rapidly the coal trade has grown and how much profit both masters and men have derived from it. The growth of the coal industry since the Industrial Revolution has been almost phenomenal, and the output has increased enormously, as of course was only natural when new mines were opened up and old mines were worked in a more efficient manner. It is really only in the last hundred years that Great Britain has realised the vast possibilities of the wealth of coal that lies beneath her feet; and when we remember for how many centuries this immense store of mineral wealth was almost untouched, and for how long merely the surface, so to speak, was scratched, it seems remarkable that these treasures were not discovered and utilised sooner.

Their discovery and utilisation, however, proceeded very rapidly as soon as steam could be applied to their extraction, for coal now became a prime necessity for every factory. The use of coal soon caused far-reaching effects—effects indeed whose influence was not confined to industry alone. It has been remarked that the constitution of England is based upon its coal fields, and if the remark is taken to refer to the changes wrought in the constitution during the last seventy years, the remark is true enough. Certainly the factory and the coal field together have completely revolutionised modern England in more ways than in the mere expansion of industry. It is due to the combination of these two industrial factors that the North and West of the country has been covered with large towns containing a population numbered by thousands where, a hundred years ago, it was numbered only by hundreds, and in some cases by scores. It is due to this concentration of population in the manufacturing districts and the changes thereby caused in the general distribution of the population throughout the country, that the old arrangements for the representation of the nation in Parliament were proved to be totally inadequate, and it became absolutely necessary to change them by the Reform Bill of 1832. The changes wrought by that famous Bill, and the other reforms on the same lines which followed it, have resulted in a growth of democracy as rapid as the growth of our industry and trade; and besides these industrial and political changes there have been corresponding social changes which in their way have been quite as important, and in their ultimate effects quite as far-reaching. In very many ways the England of the year 1900 A.D. is a very different country from the England of a hundred years before.

The changes in the distribution of population are therefore worth at least a brief mention before passing on to other industrial developments. The total population of England and Wales had been in 1760 a little under seven million persons, but from that date onwards it began to increase with almost marvellous rapidity, the average rate of progress for each ten years being larger than the preceding. In 1801 the decennial increase was 14 per cent upon the previous ten-year period, while in the ten years 1801–1811 it was no less than 21½ per cent, the highest rate ever reached. In the year 1821 the population of England and Wales was some twelve million persons, nearly double what it had been sixty years previously; and in the next sixty years, 1821–1881, it again doubled itself, the census of

1891 showing some twenty-seven million persons for England only. Now, during the eighteenth century the population was far more evenly distributed than it is now; but what preponderance there was of one district over another was certainly in the south rather than the north. If the reader will look at any map of England and take the course of the River Trent as a rough line to continue across the paper, it would have then been found that the majority of the population lived south of that line. The author of *Robinson Crusoe,* who wrote many books other than romances, and in especially a very valuable description of a *Tour in England* in 1725, said that "the country south of the Trent is by far the largest as well as the richest and most populous." But as manufactures developed and the coal fields were opened up, people left the southern counties and slowly but surely migrated north, to the cotton and woollen mills of Lancashire and the West Riding of Yorkshire, to the pottery and hardware centres in Staffordshire and Warwickshire or to the coal mines of Durham and Northumberland. The south-western and the eastern counties were no longer, as in previous centuries, the homes of a large manufacturing population working under the old domestic system. There was no coal there, and so the looms became silent in the cottages and the spinning wheels ceased to turn, while workers were attracted in greater and greater numbers to the new mills of the north, where the busy machinery ran all day and sometimes all night, and the men and women who tended it worked no longer in their village homes, but in the large new factories that employed hundreds at a time. There was, moreover, not only a shifting of population from north to south, but also, as can be readily understood, a greater concentration into the towns. There began that depopulation of the rural districts and that crowding into towns which is so marked a feature of industrial development not only in England, but in various European countries also. Agriculture, from being the most important and richest industry in the country, began to decline in comparison with manufactures, and the fields and villages gave the best of their young men and maidens to serve in the crowded shops and workhouses of the towns. This remarkable development of town life has a great many disadvantages, and, though it seems inevitable in view of the general conditions of modern industry, there can be little doubt that the decreased importance of agriculture and of rural life will give rise to serious industrial problems.

CHAPTER V.

THE INDUSTRIAL REVOLUTION (*continued*).

(3) TRANSIT.

THERE remains to be discussed another phase of the general revolution that took place shortly before the nineteenth century began, namely, the changes in the means of transit and communication. The invention of the locomotive and the railway did not take place till comparatively late in the century (1825), and it was not till the "forties" had begun that railways had become at all common. The effect of the methods of communication upon industry is of great importance, and, therefore, we may well devote a few passing words to the state of communication previous to 1825. We may notice three phases of development, first canals, then roads, and finally railways.

The famous Bridgewater canal was one of the best known and finest of its kind and was completed as early as 1758, and the reason of its construction illustrates at once the importance to industry of good means of transit. The then Duke of Bridgewater possessed a large estate at Worsley, some seven miles from Manchester, containing some very rich coal mines. These were, however, of little value owing to the great difficulty and cost of carrying coal to market. The roads of the period were not very good and the ordinary mode of carriage was on the backs of packhorses or by carriers' waggons. Either method was slow and cumbersome, especially the former, as a horse cannot carry anything like such a load as he can draw; but as the roads were bad, there was very often no choice but to send goods on horses' backs. In the case of coal this was a particularly expensive and cumbrous mode of conveyance, owing to its great bulk and weight. The Duke, therefore, being desirous of turning his rich deposits of coal to good account, thought of the project of making a canal; and was fortunate to find an able engineer, James Brindley, who was able to carry out the project in the face of many great engineering difficulties. The canal was taken not only from Worsley to Manchester, but ultimately continued to Liverpool.

Some idea of the usefulness of this great work may be gleaned from the fact that before the canal was made the price of goods carriage from Liverpool to Manchester was forty shillings a ton for the distance of some thirty miles, while the Duke's charge for carriage on the canal was limited by statute to six shillings. Of course the canal was at once largely employed in the traffic of the district: "besides manufactured goods and raw materials, coals from the Duke's own pits were deposited in yards at various parts of the canal for the supply of Cheshire; lime, manure and building materials were carried from place to place, and the markets of Manchester obtained a supply of provisions from places too remote for ordinary land conveyances." So great was the utility of this canal, in fact, that others were speedily constructed in all parts of the country, and towards the close of the eighteenth century, the years 1791 to 1794 were specially remarkable in commercial history for a mania of speculation in canal shares.

But already another improvement had begun in a different direction, that of road making. Just about forty years before the first railway was made, great improvements were made in the service of mail coaches that ran from London to various of the chief towns of England. This was largely owing to the enterprise of John Palmer, M.P. for Bath. From about the year 1784 till the railways began to send their iron lines like a network over the land, that is for rather more than half a century, the fast mail coach with its fine and spirited horses, its characteristic coachman and its guard with the tooting horn, was a familiar object on every high road.

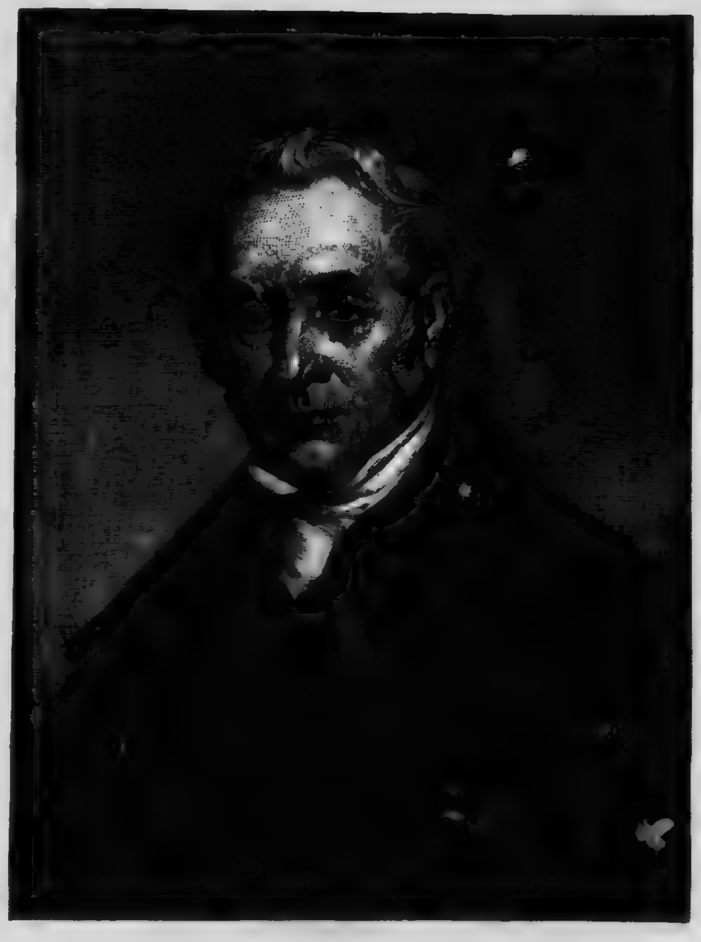
But before the coaches could run easily, it was necessary that the roads should be improved, and the names of Metcalfe, Telford and Macadam (and especially the latter) remind us how much these engineers did for the progress of industry by facilitating the means of communication. Telford made his name famous chiefly by his work on the roads in Scotland and Wales (1802–1820) during the first twenty years of the nineteenth century, his most striking piece of work being the Menai Bridge (1819) over the straits between Anglesey and the mainland of North Wales. Not only in Wales, however, but in every part of the Kingdom good roads were made, and this made it easier to run a swift and regular service of coaches. In fact, just before the introduction of railways the coaching system was in its prime, and many and romantic are the memories of it which still linger in English hearts.

The performances of some of the best coaches early in the century were indeed remarkable. One of the quickest services was that between Shrewsbury and Holyhead, a distance of 107 miles, which was regularly covered in ten hours at a speed of eleven miles an hour over the whole distance. The mail coach between London and Edinburgh did the journey of 395 miles in forty-two hours twenty-three minutes, and that between London and Exeter took only seventeen hours for 172 miles, or an average of over ten miles an hour throughout. The "Quicksilver" coach from London to Brighton, a distance of 51½ miles, generally took only four hours and a half, but on one occasion, at the opening of a Parliament, did it in three hours and forty minutes. Yet even these rapid journeys were destined soon to be eclipsed by the performances of the railways, and of course the service by rail was not only quicker, but much cheaper than by coach. The journey from London to York by coach cost £3, 5s. inside or £1, 14s. outside, as compared with £1, 7s. first class or 16s. 11d. third class by rail.

But great as were the facilities offered by canals for good traffic and fast horse-coaches for passengers, they paled into insignificance upon the introduction of railways. Here as elsewhere the mighty power of steam superseded every other motive force. It is perhaps worth noting that steam as a force for locomotion was first applied to water carriage, and not to railways on land. The first steamboat in Great Britain is said to have been the *Comet*, which was run on the River Clyde in Scotland by Henry Bell in 1812. The first ocean passages in ships moved by steam power were made in the year of Queen Victoria's accession to the English throne (1837) by the *Great Western* steamer from Bristol and the *Sirius* from Cork, both sailing to New York, which port they both reached on the same day (23rd April), though the Bristol ship started four days later than the other and did the distance in fourteen days. The voyage now takes only half the time, as we shall see in a later chapter.

For land transport, George Stephenson was the first inventor to make a really practical locomotive. His first engine, "The Puffing Billy," as scoffers named it, was completed in 1813, and after some improvements was able to draw trucks laden with coal from a colliery near Newcastle to the river bank; and this old engine was so well made that it lasted till 1872, when it was purchased by the Government.

It seems strange now to think that to the minds of people in England in the beginning of the century a locomotive was not at first thought by any means an essential part of a railway system. The original idea was to run carriages on rails merely as an easier way than dragging them over an ordinary road, and it was not at first contemplated apparently to use anything else but horses to draw them. Even on the first railway that was opened for passenger traffic, that between Stockton and Darlington in 1825, the coaches used for passengers were at first drawn by horses, whilst the steam locomotive was only used for dragging the goods waggons, as it was thought to be far too dangerous for passengers. However, in a short time the fear of danger from the steam engine passed away, and it was proposed to build another railway on which steam power was to be used. This line was made between Liverpool and Manchester, and it was thought a wonderful advance upon previous attempts when George Stephenson designed a new engine, "The Rocket," which succeeded in drawing a load of nine and a half tons at the rate of some thirteen miles an hour.



ROBERT STEPHENSON, M.P.

The Liverpool and Manchester line was formally opened on the 15th September, 1830, amid manifestations of great public interest, although the proceedings were sadly marred by an unfortunate accident happening to Mr. William Huskisson, then President of the Board of Trade, and M.P. for Liverpool, which resulted in his death. After this, railway development proceeded apace, a line from London to Birmingham being opened in 1838. It is rather interesting to read at the close of the nineteenth century the article on "Railroads" in the *Dictionary of Commerce*, edited by that distinguished economist, J. R. McCulloch, who, nearly half-way through the century, writes as follows (1844): "The length of the Manchester and Liverpool railway is about thirty-one miles, and it was usual from its opening to perform this journey in handsome carriages, attached to the locomotive engines, in one and a half hours or less! So far indeed as respects the facility of passing from the one to the other, this railway has brought Manchester and Liverpool as near to each other as the western part of London is to the eastern part!" The distance is now done regularly in forty-five minutes.

Further on he writes: "Among the greater lines of railway now (1843) existing, may be specified that from London to Manchester and Liverpool, which has been already extended to Lancaster and will probably at no distant period be further prolonged to Glasgow, but, taking it as it now stands, it is one of the greatest public works ever executed in any country, and is a striking result of the wealth, science and civilisation of modern times. The railway from London to Bath and Bristol is also a magnificent work, and is in some respects superior to any other in the Kingdom. Among the other leading railways may be specified those from London to Southampton, Brighton and Dover; those from Carlisle to Newcastle, from Edinburgh to Glasgow and Ayr, with a host of others."

The Continental country that seems to have taken up the railway system most rapidly was Belgium. "They have already," says McCulloch, in 1844, "been extended to a degree that could hardly have been anticipated. . . . The railways of the United States are also exceedingly numerous, and some of them are of great length. But, speaking generally, they are not so substantially executed, and have not been nearly so expensive as those of this country. Many of them consist only of a single pair of rails, with double pairs at certain intervals to admit of the trains passing." What wonderful developments the latter half of the nineteenth century has seen since these words were written some fifty years ago!

We have left till the last the account of one of the most important of English industries, the iron trade. But the reader who has followed us in the preceding pages must have reflected already that the remarkable development in machinery, in steam engines, both locomotive and stationary, in the laying down of railways and the building of factories, could never have been accomplished without a corresponding increase in the supply of iron. Without iron and steel the locomotives could neither have run or have been built nor could the new machinery have been set up. But the iron trade, necessary as it was for the progress of industry, could never have developed without a corresponding increase in the supply of coal, for fuel is necessary to heat the furnaces wherein the ore is smelted.

Now, till nearly half-way through the eighteenth century, wood was used far more than coal for the furnace; and consequently every increase in the making of iron was accompanied by the destruction of timber. From the time of Queen Elizabeth onwards, complaints were constantly made to the Sovereign or to Parliament that certain districts, such as the Weald of Sussex and parts of Kent, were being stripped of timber for the sake of the iron trade. About the year 1740, however, pit-coal began to be used for smelting iron at Colebrookdale and one or two other places, but progress in the use of coal was comparatively slow. It was the extraordinary demand for iron occasioned by the great Continental and Napoleonic wars at the end of the eighteenth century, together with the interruption caused by war to the importation of iron from abroad, that first gave a stimulus to the iron industry at home, while a further reason for progress was furnished (as we have seen) by the new inventions of machinery, and by the fact that, after steam power had been applied to mining, coal became readily available for the iron furnaces.

Many improvements were also made in the methods of extracting and smelting iron, so that production began to grow with amazing rapidity. Thus in 1750 the quantity of pig iron turned out in England and Wales was only 22,000 tons; in 1788 there were 68,000 tons produced by eighty-five furnaces; in 1796 there were 125,000 tons from 121 furnaces. But in ten years' time (1806) this annual amount was doubled, and the figures stood at 250,000 tons; and in the year 1820 the total reached 400,000 tons. Twenty years later (1840) we find the annual production of the year 1820 more than trebled, and the total output was 1,396,400 tons. "The increase of production," says McCulloch, "is to be matched only by the progress of the cotton manufacture after the introduction of the inventions of Arkwright and others. We believe, however, that the extraordinary increase in the production of iron since 1830 is principally to be ascribed to the extensive construction of railways in this country (England) and in the United States, between that epoch and 1838, and the consequent increase in the home demand for iron, and in the shipments to America. The employment of the hot-blast, or of air heated to a high temperature, instead of common atmospheric air, in the working of furnaces, has been one of the greatest improvements in the manufacture, and has at once reduced the cost of iron and increased its quantity."

When, after this survey of the leading features of the Industrial Revolution, we look back upon the early years of the nineteenth century, we cannot fail to be impressed with the number and variety of the inventions and changes which then took place. Alike in agriculture and in textile manufactures, in the means of communication and the methods of mining for coal and iron, developments were made which justly entitles this era to be called the era of Industrial Revolution. How it happened that all these changes took place in so comparatively short a space of time, is a question of peculiar interest, to which, however, no satisfactory answer can be given. Just as, in the countless ages that have gone to the making of our present earth as we know it, there have been sudden cataclysms and disturbances of Nature that have rapidly altered all previous conditions, so in the realm of industry, in spite of undoubted development and gradual evolution up to a certain extent, there seem at times to come great and marvellous epochs which alter the whole conditions of national life and create a new world of industry and commerce. Such a change took place in the conduct of military affairs with the invention of gunpowder, in navigation with the invention of the mariner's compass, in the world of science and thought with the discovery of printing. Each invention marked a new epoch of human progress, and so too with the opening of the nineteenth century another epoch may be said to have begun in the individual life of mankind.

CHAPTER VI.

THE OLD WORLD AND THE NEW AT THE BEGINNING OF THE NINETEENTH CENTURY.

HAVING now seen how the great industrial changes began which have made the nineteenth century what it is in commerce and industry, we must turn to consider the condition of the chief commercial nations at the time when these developments were in progress. The latter half of the eighteenth century had been productive of striking political events for all of them. The New World of America had definitely cast off the leading strings of the Old; for the War of American Independence, which severed the United States from England, though the first and greatest shock, was not the only blow struck at the relations of Europe to America. The Spanish colonies of the South portion of the great American Continent also in course of time threw off allegiance to their mother country, though they did not achieve independence till the nineteenth century had well begun.

It has been said by Mr. E. J. Payne, the author of a well-known *History of European Colonies*, that the story of the independence of Spanish America presents but few points of resemblance with that of the United States, and that it was due to mere accident that one followed so closely upon the other. But those who regard the history of the world in a comprehensive and international light can hardly fail to dispute this assertion. The independence of the South of the American continent, though it came later, was just as inevitable as that of the North. Certainly the colonies of Spain had far more reason to sever themselves from the old country than the colonists of England. But it was inevitable that the War of American Independence should place the relations of the new and the old upon an entirely different basis, and it is interesting to notice that this was foreseen as early as 1783 by a Spanish statesman.

The Count of Aranda, after the peace of that year, wrote to warn the King of Spain of what was to come, and his forebodings were singularly accurate. The United States, he said, would soon forget their obligations to Spain and France, and would lay hands first on Florida and then on Mexico. Then Spanish America also would be seized with the spirit of independence, and the only remedy he could suggest for this would be to make Mexico, Peru and New Granada into three separate kingdoms, subject only to a moderate extent to the crown of Spain. His prophecies came true in less than half a century, hastened also by the political complications which took place in Spain during the Napoleonic wars, when French authority had been extended over the Iberian Peninsula. It has been said that Spain might have retained her rebellious provinces by abolishing the monopoly of tobacco. The statement is as true, and also as false, as the similar saying that England might have retained her American colonies by abolishing the tax on tea which so roused the resentment of the people of Boston. Taxes, whether on tea or tobacco, were merely a sign of the authority of an external government, and the objections made to them were in reality an expression of the determination of a strong and active youth not to be kept in leading strings by a parent who could no longer control him.

The severance, therefore, of the New World and the Old is one of the great features of the world's history, and had its influence upon the development of commerce and industry as well as of politics. Its main effect, perhaps, though at first sight this may seem incompatible with more recent tariff legislation, has been to develop freedom of trade. How far this has been the case will be more readily understood when we remember that under the old colonial system the mother country was supposed to regulate very closely the trade of her colonies. Colonies were regarded by English and European statesmen as owing their existence and their prosperity to the mother country; and therefore it was thought to be only fair to exploit them in the interests of the people at home. At the same time, the mother countries were most anxious that no one else should benefit from their colonial possessions.

Thus, in the case of the North American colonies, all imports to them from any country of Europe, except England, were strictly forbidden, in order that our manufacturers might have the monopoly of the colonial market. For the same reason every attempt was made to discourage the colonists from starting manufactures on their own account, as, for instance, in the case of the woollen and iron trade. There were also certain restrictions, which we need not now detail, upon the exports sent from the colonies to other countries than England, and though the views and actions of English statesmen were no worse than was usual at that time, it is not surprising that such a system of commercial and industrial dependence should prove obnoxious to the colonies who suffered from it. The Spanish colonies had to endure far more severe restrictions. Hence it is not untrue to say, that, in spite of modern tariff regulations, commerce between the old world and the new had been much more free since the era of political independence, while the benefit to the internal industries of the new world has been perhaps inestimable.

But the greater freedom of commerce was also aided to some extent by another great political movement in addition to the War of American Independence and the Revolt of the Colonies of Spain. The new world offered, of course, a wide field for emigration, and both capital and labour have been attracted to it in an ever-increasing supply since the days of these great political changes. But, apart from this obvious result of severance, the new constitution of the United States had its own political effect upon Europe, and the Republic of the new world was rapidly followed by the great Republic of the old which arose in France after the French Revolution. And the French Revolution meant more than a mere change of political constitution: it broke with old privileges and restrictions not in politics alone, but in commerce and industry. From Paris the doctrine of the rights of the *bourgeois* spread quickly to the surrounding European states, and though elsewhere the change in the position of the trading and industrial classes had taken place without the misery and bloodshed that occurred in France, it has taken place none the less surely.

Economic changes have followed political. With the greater equality which now characterises the various classes of citizens in a modern state, there has come a greater readiness to recognise the principle of freedom for labour, for trade and industry, and for the full use of the forces and opportunities of commerce. In the domain of agriculture, for instance, the European peasant in ceasing to be a serf, as he practically was in France and Germany, has become an important member of the body politic, and at the same time is allowed to enjoy the fruits of his labour in a far fuller measure than was previously allowed to him. This has led to considerable changes in European agriculture. Set free from the oppressive number of ancient hindrances in the shape of forced labour, both for the State and for the owner of the land, and from the heavy taxes levied upon him both in money and kind, and encouraged by greater facilities in the means of transit and communication, the peasant has been able to undertake the cultivation of new industrial plants and crops, to pay attention to the growing of raw material, such as flax and beet root, for the modern manufacturer, to learn from the progress of agricultural science how to rear his cattle more successfully and in greater numbers, and in fact to regard the cultivation of the soil not merely as a means of gaining for himself a scanty livelihood and no more, but as an important branch of industry that takes its place side by side with other industries in the economy of the nation, and, what is more, in the general industrial conditions of the world at large.

There has come, in fact, a widening of the worker's horizon, a widening as perceptible in the industrial as in the political outlook. Every trade and industry has become in a sense international. In mining, for instance, the beginning of the nineteenth century opened up a new era: the production of coal and iron began to be carried on more than ever before for an international and not a merely local market. The sciences of mechanics, engineering and chemistry had the same effect upon the manufacturing industries. In every direction there was greater freedom and a wider outlook, and as an immediate consequence a vastly greater increase in the production of commodities.

When we say production we mean also practically distribution; for a product is useless unless it can be placed in the hands of the person who wants it; and therefore we may include the modern facilities of communication, in transporting goods from one country to another, among the processes of production. With the increase of production came a diminution of prices, especially for manufactured goods; and naturally with greater cheapness of commodities there has arisen a greater demand for and consumption of them, so that the standard of comfort in living has been raised for very large numbers of the middle classes and to some extent also of the working classes. For the latter, indeed, the change in political status in all Continental countries has worked most beneficially upon their economic condition, and though they have still in many parts of Europe a considerable amount of progress still to make, and in some cases are very impatient to make it, no one who knows the facts of history can fail to see how vastly their condition has been bettered since the days of the French Revolution. In this respect it is noticeable that France lagged far behind England as regards the condition of her peasants. The English peasants who revolted in 1381 in what is commonly called Wat Tyler's rebellion had no more to complain of than the French peasantry who often took such a terrible vengeance upon their former oppressors at the time of the French Revolution; and it is certainly worth the attention of the student of economic as well as of political history that since the Peasants' Rebellion of 1381 England has witnessed no great movement arising from the causes which provoked outbreaks elsewhere.

CHAPTER VII.

ENGLAND AND THE UNITED STATES AT THE BEGINNING OF THE NINETEENTH CENTURY.

We have now seen how the beginning, and indeed the whole, of the nineteenth century has been dominated by three great historical events: namely, the severance of the American States both of the North and South from political dependence upon the older countries of Europe, the Revolution in France and its effects upon the masses in other nations, and the Revolution in the conditions of industry created by the use of machinery and steam power. We now turn to the position occupied by the leading civilised countries in commerce and industry at the beginning of the century. Naturally we turn first to England, not merely because we are writing for English-speaking people, but because, from various causes which we shall notice later, England certainly occupied at the beginning of the century an even more preeminent position in commerce and industry than she holds at the end of it.

The causes for this are partly political and partly industrial. England had not always been a great commercial nation: in fact, in the Middle Ages she was in this respect considerably behind the traders of Germany and Italy. It was only since the days of Queen Elizabeth and her famous sea-captains, Drake and Raleigh and their fellows, that England had become a commercial power. Although inhabitants of an island, it was not till the sixteenth century that the English showed any aptitude for foreign commerce, and even in the seventeenth they were inferior to the Dutch. It was not till after the wars of Cromwell and Charles II against the Dutch that England became a maritime nation of the first rank. She was by no means the first of colonising nations either in India, Africa or America; in all these quarters of the globe she was anticipated by others. But in the eighteenth century England made a great step forward; though late in the field both of colonisation and of maritime commerce she soon became pre-eminent in both.

The high place the nation thus came to occupy was due to various causes, among which the state of European politics in the latter half of the eighteenth century must be reckoned. If we consider the condition of the great European powers after the peace which terminated the Seven Years' War in 1763, we perceive that England was in a favourable position. In the first place she had seriously injured her great commercial and colonial rival, France, in her possessions both in India and in North America. By the Seven Years' War England had gained Canada, Florida and all the French possessions (except New Orleans) on the Mississippi River, while in India the victories of Clive had established English influence as supreme and laid the foundation for a further extension of trade and sovereignty. Another great European power. Spain, at that time closely allied with France, had suffered with her ally in the struggle against England. As for Germany, inferior then in political prestige to both France and Spain, her kingdoms were violently disturbed by those dynastic struggles between Austria and Prussia, in which Frederick the Great played so prominent a part. The power and commerce of Holland, a state which in the previous century was one of the most successful in commercial pursuits, were similarly suffering owing to internal troubles, and before 1790 the Netherlands had practically sunk into insignificance. The other kingdoms of Sweden and Norway in the North and Italy in the South were of very little account either in politics or commerce.

Thus, on looking round, we can see that England was the one country that had a favourable opportunity to develop her foreign trade and to supply the world's markets. The opportunity was not allowed to slip; the great inventions which were made in the latter part of the eighteenth century enabled British manufacturers and merchants to supply foreign markets without much fear of competition, while at the same time British colonial power was being steadily extended in various quarters of the globe.

Even the severe conflict with our colonists which resulted in the severance of the United States of North America did not inflict so much loss upon British trade as had been expected. Indeed many people have maintained that the severance was a distinct gain; and at any rate it is certain that after the War of Independence the trade between Great Britain and North America was carried on with greater freedom. "Britain," says that voluminous writer on the history of commerce, Mr. Macpherson, "instead of being ruined for want of commerce with America as had been predicted, and indeed contrary to the received maxim that a trade once turned out of its channel cannot be recovered again, was in danger of suffering from the too great ardour of the merchants for forming new connections in that continent. Many adventurers, immediately upon their arrival in America, converted their goods into ready money at any prices, and then shipped themselves off to the continent of Europe, or hid themselves in the boundless back countries of America under the newly assumed character of land jobbers. It appears from Mr. Coxe's *View of the United States of America* (p. 34) that in the year 1787 the remains of the excessive importations of the four previous years were constantly offered for sale at prices lower than their cost in Europe, which was a great injury to the fair importers and manufacturers in America."

The same author writes in reference to so early a date as 1789 that "the ill-will engendered by the American War was now turned into friendship and harmony between Great Britain and the American States, the influence of which extended to the most distant British possession. The ship *Chesapeake*, the first American that was allowed to trade or to show her colours in the River Ganges in India, was moreover favoured by the supreme Council of Bengal with an exemption from the government customs which all foreign vessels are bound to pay." The better feeling that thus prevailed found its expression a few years later (1794) in a commercial treaty of a far more mutually amicable character than the circumstances of the late War would have led people to suppose possible.

It was indeed only natural that Great Britain and the United States should at once engage in trade, one with another. Apart from the fact that in spite of recent hostilities, both nations were connected by the ties of birth and language, the one required so obviously what the other was ready and willing to supply, that mutual commercial intercourse was inevitable. Great Britain could supply to the States the clothing, implements, and other manufactured articles of which every newly settled country stands so constantly in need, while America could contribute boundless stores of foodstuffs and (what was at that time more important) a plentiful supply of raw material for the rapidly growing manufactures of England.

In no case was this more clearly seen than in the manufacture of cotton. Previous to the year 1790 America did not send to England a single pound of the raw material for this trade. A little cotton had been grown in the Southern States for domestic use before the War of Independence, but the quantity was quite insignificant. In 1791 cotton was exported for the first time, only some 189,000 pounds weight being shipped in that year, and rather less the year after. Suddenly, however, the export of cotton assumed enormous and even startling dimensions. In 1794 over one million pounds weight were sent out, and the very next year over five million pounds; and so remarkable was the growth of the trade in this one article that the cotton exports of the United States in less than half a century rose to the extraordinary total of 530,000,000 pounds, which is the figure for the year 1841.

The sudden growth of this export trade is due to an invention made by an American named Eli Whitney for the treatment of what is known as upland cotton. American cotton is of two kinds, known as sea island and upland. The first grows on the small sandy islands and shores of Carolina and Virginia; it is long in the staple, of an even silky texture and is easily separated from the seed. It can, however, only be raised in certain situations, so that its quantity is necessarily limited. The upland cotton on the other hand existed in practically unlimited quantities, and though varying in quality is all short-stapled, and its separation from the seed is so difficult that when done by hand it was scarcely worth the labour. Previous to 1793, however, separation by hand was the only method known, till the invention of Eli Whitney came to the rescue. He invented a machine by which the wool of this upland cotton could be separated from the seed quite easily, and immediately after his invention came into use the export of cotton rose in the extraordinary manner which has been mentioned above.

But though the cotton export became so early in the history of the new country one of the most important features in its commerce, it must not be imagined that it was the only branch of trade. Few things are more remarkable than the rapid entry which the United States effected into the domain of international commerce. Much of their success was due to the fact that the various States were all united in the one Union, and did not suffer the loss and inconvenience which later on affected the republics of South America when they too became independent. Whatever regulations or tariffs might be instituted they were the same for all, and foreigners were not bewildered by a variety of commercial laws in different States. Hence, when the United States appeared upon the scene as competitors in the world's trade, they came as practically a single nation and a single government with all the advantages resulting therefrom.

Even the war with England had not proved altogether without benefit to their domestic industries.

Being largely cut off from the accustomed supplies of manufactured goods from the mother country, and being also most unwilling to use anything of British manufacture if they could possibly avoid it, the American colonists were compelled to fall back upon their own resources far more than had been previously the case. They set up manufactures of their own, and in order to encourage them they did what all new states seem unanimous in doing, they imposed protective duties upon all imports of manufactured goods from foreign countries. "The feeling of hostility to the English Government; the belief that the industries unduly retarded by the colonial system required some compensating encouragement; and lastly the pressing fiscal necessities of the new Government combined to bring about the establishment of a moderate tariff upon imported goods. The first tariff of the federation was framed under the influence of Alexander Hamilton" (born 1757, died 1804), a distinguished financier appointed by President Washington as Secretary to the treasury department, "who, in his famous *Report of Manufactures* (1791), laid the basis of the later protectionism. The rates were, however, so low as to act chiefly as revenue duties, but they were increased by degrees." (Prof. Bastable, *Commerce of Nations.*)

More effectual than this nascent protection was the position in which the United States were placed. At first the European wars opened up a splendid market for American producers of food and raw materials, of which they largely availed themselves, as the increase in exports shows. Imports of English manufacturers formed the readiest and most satisfactory mode of payment, while, as neutrals, the United States also obtained a considerable share of the carry-

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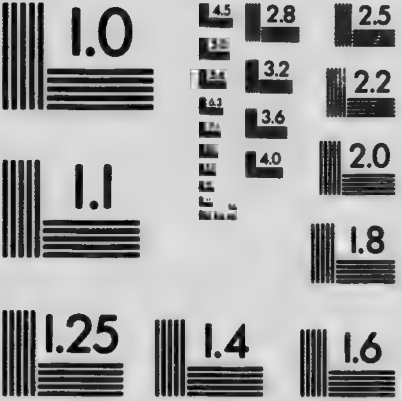

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ing trade in spite of the Navigation Laws laid down by England. But there was some division of opinion even at this early period between the Northern and Southern states as regarded tariff questions. The Southern states were, of course, the most fertile and were the greatest producers of food and raw material, and were naturally desirous for this reason to get manufactured goods in the cheapest market in return for their raw produce. The Northern states, on the other hand, contained most of the infant manufacturing industries of the newly formed Union. The first cotton mill, for instance, had been erected in Rhode Island in 1790. It was the interest of the North to advocate protective duties, especially as they imagined themselves to be at a disadvantage as regards labour, because they did not employ slave labour so much as the South, though whether slave labour was really an advantage seems now open to question. This division of opinion between North and South continued more or less acute up to the time of the Civil War.

But there was one branch of manufacture for which the States possessed the greatest advantage, and that was the very important branch of shipbuilding. It was not natural that a federation containing such boundless stores of grain and other foodstuffs for export should allow the export trade to fall into the hands of foreigners, especially as the American continent possesses such enormous tracts of forest; and therefore we find that shipbuilding became at once a very important industry. "With a rich, virgin soil, the rudest agriculture returned abundance, sufficient to furnish food for the world. Ships were required to carry on this fast developing commerce, and boundless materials for shipbuilding were at hand. This therefore," says Mr. Yeats, the commercial historian, "became one of the earliest and most valuable industries."

The importance of this fact in the history of American commerce is seen almost immediately after the War of Independence, though it was the French Revolution that helped the Americans to the first great expansion of their carrying trade. "As the kingdoms of Europe, involved in continual war, lost their commerce," remarks the same author, "America took it up. Between 1790 and 1800 a mercantile fleet arose, trading freely with the Dutch, French, and Spanish colonies in the East Indies, and increasing the intercourse with Cuba and the other West Indian islands." There was, for example, a remarkable increase in the sugar trade with the West Indies. "For the time being, the world's trade seemed to fall into the hands of the Americans. Europe was for several years almost wholly supplied by them with colonial produce. Russia, Sweden, Germany and even England availed themselves of the merchant service of the New World, both for interchange and in the carrying trade. For this last branch of commerce no country had equal facilities. American vessels, being all home-built, were exempt from the cost of foreign chartering; while the profits of the service attracted the best energies of the Union, and there was no lack of sailors. A comparison of the tonnage of the ships sailing between the United States and England at an interval of about twenty years will show the activity of the American dockyards:"

Year.	British.	American.
1789	72.000 tons.	21.000 tons.
1808	14,000 tons.	110,000 tons.

Of course during the latter year all England's best energies were engaged in the war against Napoleon, so that the comparison is not quite just, but it is sufficient to show that the tonnage of American vessels had increased exactly five times in the period under review. At the same time many American vessels were engaged, as they have always been since, in the fisheries for cod and other fish off Newfoundland, and for whales in the Pacific and in both the North and South Arctic oceans.

CHAPTER VIII.

FRANCE AT THE BEGINNING OF THE NINETEENTH CENTURY.

WHILE the trade of the American Republic was thus increasing, the economic condition of France was becoming worse and worse. In the year 1786 a treaty of commerce had been concluded between France and England through the negotiations of William Eden, from whose name the treaty is known as the Eden Treaty. He was afterwards raised to the peerage as Lord Auckland. By this treaty trade was made much more free between the two nations, by means of a considerable reduction of tariffs on both sides. Its provisions caused some benefit to French agriculture, and particularly to the production of wine, brandy and oil, while it operated favourably also in the manufacture of glass and jewellery, and French muslins. On the other hand the cotton and hardware trades in France suffered somewhat from English competition, while the silk trade did not receive any particular benefit since the importation into England of silk, or of cotton and woollen materials mixed with silk, was still prohibited as before.

But the increased facilities for commercial intercourse were not very favourably received in either country, as each party seemed to think that the other had gained the greater advantage, and this impression continued until the outbreak of the French

Revolution in 1793 put an end to the treaty provisions. Nevertheless the treaty had, generally speaking, a most beneficial effect upon the commerce of the two nations, as is proved by the import and export figures between the date of its signature and the outbreak of war. Thus in 1787, the first year after the treaty, the imports from France to England were valued at £577,012, and exports from England to France at £986,906; in 1789 the imports were £556,060 and the exports £1,290,171; in 1792 (the year before the war) imports were £717,634 and exports £1,228,165.

These figures should be compared with those of ten years previously when the imports from France were only £89,119 and the exports £98,166, and it will be seen that the commercial intercourse between the two countries was increased nearly tenfold in this decade. After 1789 the uncertain condition of internal affairs caused some check to the commerce with England, but even up to the date of actual hostilities it maintained its great increase upon previous records. The war which followed the Revolution in France proved disastrous in commercial loss to the French, but did far less harm to English commerce than either the War of American Independence or the later wars with Napoleon. In 1795 France succeeded in taking possession of Holland, and England set to work henceforth to destroy the commerce of both her former rivals at the same time, and was on the whole successful in that object, for even when Holland and France were united they were unable to do serious injury to England. The carrying trade of Holland, which was already passing into English hands, though it had revived for a time while England and her American colonies were engaged in war, never recovered from the shock it received when Holland was compelled to become the ally of France in the Revolutionary Wars, and the Continental blockade instituted by Napoleon only made matters worse.

We shall see later how much the foreign commerce of France also lost by these wars. How serious the French loss was may be seen from the figures of the export and import trade at the close of the century. "Before the Revolution France employed in her colonial trade 180,000 tons of shipping. Between the years 1763 and 1778, the returns in produce from the French colonies, consisting of coffee, sugar, indigo, cocoa and cotton, amounted to the annual value of about £6,400,000 sterling. Of these one-half was consumed in France, the other half exported to other parts of Europe. In 1788 the tonnage employed in the French colonial trade had been augmented to 696 vessels of the burden of 204,058 tons. The imports rose in that year to the value of about £7,000,000 sterling." Practically nearly all this colonial trade was lost to France by the year 1800. From an official paper of the French Minister of the Interior we learn that in the year ending September, 1800, the value of the imports into France from all sources, and not merely from colonial trade, was £13,500,000, while the exports were £11,300,000, leaving a balance against France of over two million sterling. The next year (1801) the balance against France had risen to nearly four million.

It was indeed impossible that the foreign commerce of France should prosper when her internal economic conditions were so disastrous as they became during the terrible years of Revolution.

From the time of the accession of the unfortunate king, Louis XVI, the government had been practically bankrupt, and in spite of every attempt at reform, especially by the Swiss banker Necker, matters only grew worse. Very heavy expense was also incurred by the hostilities against England which occurred when France took the side of the Americans in their war of independence against England. "So scarce had coined money become in the first year of the Revolution that four issues of paper money (*assignats*) successively increasing in amount from three hundred to eight hundred millions of livres, and secured upon the State lands, had already been made. This flood of paper wealth inundated the Kingdom and there seemed no limit to riches so easily created. The experiment was often repeated, frequent and large issues of assignats proportionately depreciated the security, and ominous signs appeared that scattering paper broadcast did not increase the real wealth of France. It was made a capital crime not to receive the assignats at par; but foreigners were not bound by the statute, and took from the country all the gold and silver that was not hoarded. The paper money sank lower and lower in real as distinguished from nominal value."

At length a pair of boots cost in this wretched paper money no less than eight or ten thousand francs of assignats and a pound of butter seven or eight hundred francs. It was a poignant illustration of the economic law that bad money sooner or later always drives good money out of circulation, for it was impossible to purchase foreign goods with this paper currency, and therefore what gold and silver yet remained was being constantly sent away in payment for foreign merchandise and only the paper money accumulated at home. Gold and silver were forbidden to be exported; but the prohibition was of little avail; for as long as any money remained in the country it was steadily drained out by the requirements of external trade.

What made matters worse was that the home industries and manufactures of France were languishing from the effects of constant war, both at home and abroad, so that the requirements of the people had largely to be supplied from foreign manufacturers, and th[illegible] necessity for sending the good money out of the country became greater instead of less. Those who could not afford to buy foreign goods had to do without them, and but for the great natural wealth of the country, it is difficult to see how the mass of the people existed.

As it was, the greatest distress prevailed, added to which all those who were rich enough to leave the country did so. The Republican Government vainly endeavoured to meet the general distress by regulating the sale and the prices of various goods. It was declared to be a crime with the penalty of death for any dealer to accumulate or hold back from sale at a fixed price any goods that were classed among the necessaries of life. The result of this was that many dealers hardly dared bring their goods to market and it became more difficult than ever to get food. Finally in 1793 the Republic passed the famous "Law of Maximum," by which saleable commodities were classified into no less than thirty-nine lists, the scale of prices being fixed one-third higher than the prices of the year 1790 and the wages of workpeople at double the 1790 rate; and these prices were the maximum rates allowed.

Carlyle in his story of the French Revolution

(Book III, chapter vi) comments on it thus: "Patriotism must live: the cupidity of farmers seems to have no bowels. Wherefore this Law of the Maximum, fixing the highest prices of grains, is with infinite effort got passed, and shall gradually extend itself to a maximum for all manner of *comestibles* and commodities; with such scrambling and topsy-turvying as may be fancied. For now if, for example, the farmer will not sell? The farmer shall be forced to sell. An accurate account of what grain he has shall be delivered in to the constituted authorities; let him see that he say not too much; for in that case his rents, taxes and contributions will rise proportionately; let him see that he say not too little; for, on or before a set day, we shall suppose in April, *less* than one-third of this declared quantity must remain in his barns, *more* than two-thirds of it must have been thrashed and sold. One can denounce him and raise penalties. . . . The Trade and Finance of Sansculottism, and how with Maximum and Bakers' queues, with Cupidity, Hunger, Denunciation and Paper Money it led its galvanic life and began and ended—remains the most interesting of all chapters in Political Economy: still to be written."

Such was the unhappy condition of France at the close of last century: torn by internal revolution, embarrassed by foreign war, her external commerce rapidly decreasing and her home trade hampered by absurd regulations, it is no wonder that her economic position was far below that of Great Britain or the United States. One of her finest manufacturing industries, the silk trade, with its centre at Lyons on the River Rhone, suffered severely by the Revolution even in 1789, and when in 1793 the city was taken by the Republican forces and many of its inhabitants were slain, the trade practically ceased for some years. The same was the case with other industries.

Nor was the interference to trade and industry, both internal and external, caused by the French Revolution confined to France itself. Almost every European country felt the ill effects of war. The German states where manufacturers had been making a new development under the fostering care of Frederick the Great; the Italian states and Switzerland, which carried on so much of the commerce of Southern Europe; the Kingdoms of Spain and Portugal and the busy citizens of Holland—all alike were engaged in the great conflict or series of conflicts caused by the disturbances in France, and all had war brought home to their very doors. Perhaps of European states Russia was the one which suffered least, for corn had already become an important product both for home use and export, and while most of the European kingdoms and states were involved in these wars from 1790 to 1802, Russian corn was greatly in demand to supplement the deficiencies caused by war. This corn, however, was exported mainly in British ships, as England had the command of the sea, and therefore aided to that extent the British carrying trade as well as British commercial relations with Russia generally, for British manufactures now found a ready market in that great empire.

CHAPTER IX.

BRITISH COLONIES AT THE BEGINNING OF THE NINETEENTH CENTURY.

(1) CANADA.

But we turn now from the period of trouble and unrest that in the old world marked the close of the eighteenth century, to the new state whose foundations were being laid by England in various parts of the globe. England had lost one colonial empire but was not long in building up another, and perhaps the loss of the American colonies was not entirely without its salutary effect. It is often forgotten how recent is the growth of the English colonial possessions as we know them at the close of the nineteenth century, and how entirely they are the product of this modern period. A glance at any historical atlas will show us that in 1790 England possessed only the Canadian settlements and some of the West Indian Islands in the western hemisphere; and in the eastern only Bengal with one or two other stations in India, only New South Wales in Australia, and in Africa very little except Sierra Leone. Nearly the whole of India, nearly the whole of Australia, all New Zealand and Tasmania, all South Africa, East Africa and Egypt, and most of our more scattered possessions have been acquired since then. Even of our oldest colony, Canada, the greater portion has been opened up only in the last fifty years. "It would hardly have seemed possible to the Englishmen who had just lost their American colonies, and who were fighting for the very existence of their commerce against Napoleon I, that a hundred years later, or even less, the triumphal procession of an English Queen should have included representatives of colonial power from every quarter of the globe." And this expansion in colonial possession has implied a similar expansion in industry and commerce.

It seems, in fact, to be one of the manifest destinies of the Anglo-Saxon peoples to spread over the globe and to found new settlements away from the mother country. No sooner did England lose one set of colonies than she began to acquire others. The influence of her sea-power was felt in every quarter of the world, and it was this command of the sea that enabled her to conquer or to colonise new lands even when fighting hard with France and nearly all Europe at the same time. There were two main points, which consciously or unconsciously seem to have been at the beginning of the nineteenth century the main objects of British colonial enterprise; the one, to secure possession of the sea route to India (where England had now obtained a firm foothold) and at the same time to extend the trade with the Far East; the second to build up flourishing plantations in the West Indies and to encourage the sugar trade.

The first of these objects was obtained by the occupation of Cape Colony, then in the hands of the Dutch. It was twice occupied, in 1795 and again in 1806, and was finally confirmed to Great Britain by the Peace of 1815 after Waterloo. The second object had already been made almost secure in 1782 by the great victory gained by the British Admiral

Sir George Rodney over the French fleet under the Comte de Grasse near Dominica in the West Indies; and subsequent events had resulted in the conquest and acquisition of various West Indian islands, such as Trinidad in 1797 and St. Lucia in 1803, in addition to those formerly in British possession.

In the East and in the West, therefore, British colonial trade was being developed; while in the far South, at the Antipodes, men heard vaguely of vast islands, hitherto almost unknown, which seemed so far away that the best use to which they could be put seemed to be to serve as a place of exile and punishment for criminals who could be thus sent far enough away to be harmless to their native land. The possibilities of Australia and New Zealand were hardly even suspected. Indeed it was only twelve years before the close of the eighteenth century that a convict settlement was established at Botany Bay (1788), but it is remarkable, in these closing twelve years of the century, how rapidly the new colony took root and began to develop trade and industry. Finally, in the Western hemisphere England held sway over vast tracts of country, which, though known for a greater length of time than most other of her possessions, were even yet only very partially explored, and were very far from being recognised as capable of the magnificent possibilities which we now see in the Canadian Dominion.

Having thus noticed the position of colonial development at the end of the eighteenth and beginning of the nineteenth century, we may now glance at the economic conditions, the industries and commerce of these settlements. We have already seen something of the commerce of the United States at that period, and may therefore turn first in our survey to their neighbours in the provinces of Canada.

As early as the year 1534 Canada had been occupied by the French who, in 1608, founded the city of Quebec. It passed into British hands after the Seven Years' War that terminated in the year 1763, but the French element in this colony remained, and still remains, very strong, though it includes some of the most loyal of British subjects. The original province of Canada was divided into Upper and Lower Canada in 1791, the former containing the larger proportion of British settlers and the latter of French. At this time the whole of the country only contained about 150,000 people of whom less than one-seventh were living in Upper Canada, though even this small total was five times larger than the number in the first quarter of the eighteenth century. The main industries of the people were, of course, agriculture, fisheries and the timber trade, though as early as the days of the French Governor de Vaudreuil, who died in 1725, the making of woollen and linen cloth, mining for iron and the extraction of salt were carried on. The taste for horses, we are told by one historian, both for work and for amusement, which has always been noticeable among French Canadians, had led to the introduction of the sleigh for locomotion in winter instead of snowshoes; though one would imagine that, with or without horses, sleighs must sooner or later have been used for transit of goods, especially as they do not require horses to draw them but can equally be drawn by dogs or reindeer.

At Quebec, early in the eighteenth century, there arose a shipbuilding industry, which was greatly facilitated by the abundant supplies of timber in the forests and encouraged by the requirements of boats for the Newfoundland fisheries. The fur-trade, of course, had always been one of the most important branches of Canadian commerce, and it is noticeable that there had existed ever since the French occupation a large trade in the export to France and the French West Indies of timber, tar, pork and flour in exchange for French manufactures and the West Indian products of sugar, rum and molasses. The trade with France, of course, declined when Canada passed into British hands and when the period of war began with the French Revolution, but the West India trade was continued to some extent. The fisheries suffered at this time (about 1800), as they always have done from the effects of the vagueness in wording regarding the watershed of the Atlantic and the River St. Lawrence as mentioned in the Treaty of Versailles in 1783; and there arose that troublesome and vexatious fishery question which has from time to time disturbed the governmental serenity of Britain, France, and the United States.

The rule of Governor Simcoe, which terminated in 1796 on his removal to take charge of San Domingo, was noticeable for the promotion of a sound and vigorous policy in regard to the fisheries, agriculture and the development of colonial industries generally; and it is interesting to note, as a sign of the thinly settled condition of Upper Canada, that about this time rewards were offered for the heads of bears and wolves. "The close of the eighteenth century saw the new colony rapidly progressing in population, trade and wealth, won through labour directed to the natural resources of the region. Many immigrants from Ireland were sent thither by the troubles of 1798, and a brisk commerce arose with Albany and New York by way of the lakes and rivers, as the rapids of the St. Lawrence hampered communication with Montreal and Quebec."

An account of the trade between British America and Great Britain in the year 1800, as detailed by the industrious Macpherson in his *Annals of Commerce,* will give an excellent idea of the resources and development of Canada at the beginning of the present century. The exports were valued at £393,696, an increase upon the preceding years, though the imports at £975,986 show a slight decrease. In the exports furs and skins naturally held a high position. "The vast region of lakes, rivers and woods, long sacred to the beaver, buffalo, moose, bear, wolf and other creatures hunted as beasts of prey or as objects of value for skin and fur, was by degrees opened up by the adventurous and arduous toils of both British and French explorers. Trappers, *voyageurs* and *coureurs des bois,* scurrying on snowshoes in the wintry woods, or paddling on the numberless streams and lakes in the light canoes which could be carried on their backs over the *portages* connecting the different waters, made their way, greatly daring in the greed for gain, from point to point of the huge domain. The hardiest men from both sides of the Atlantic were engaged in the work of gathering, trading in and storing furs. The Hebrides and Orkneys sent forth their sons, and Frenchmen of Canada, Indians of divers tribes, half-breeds, and, adventurers from every clime, were to be found at the widely scattered posts of the company. By a regular tariff of barter, the skins of the beaver, the marten, the muskrat, and the valuable silver fox, were obtained from the natives who trapped them or hunted them down." (Sanderson, *Our Empire.*)

Besides this important fur trade there were also feathers and castoreum sent from Hudson's Bay; a small quantity of fish, train-oil and seal-skins from Newfoundland, pearl ashes, pot ashes, wheat, flour and timber from Canada proper; skins and lumber from New Brunswick; tar and turpentine, lumber and skins from Nova Scotia. The principal imports were guns, gunpowder, cordage, sailcloth, salt, copper, steel, brass, cotton, silk, and woollen goods, wrought leather, hats and haberdashery; in fact, the ordinary manufactured articles required in every young community which cannot make them for itself: together with wines, spirits, spice and groceries which could not be produced in Canada. It will be seen from this that the commerce of all British America in 1800 was insignificant compared with the figures of a hundred years later, and that the present century has seen very great progress.

CHAPTER X.

BRITISH COLONIES AT THE BEGINNING OF THE NINETEENTH CENTURY (*continued*).

(2) THE WEST INDIES AND THE CAPE.

If the commerce of British North America, however, was still small and of no great value, that of the West Indies was in 1800 of much greater importance, relatively, to the whole body of colonial trade, than it is at the present time (1900). Indeed about the year 1800, these islands were England's most flourishing colonial possession. They were the wealthiest of our colonies and the place where the largest fortunes were made. The West Indian interest in London, and in the two great ports of Bristol and Liverpool, possessed, owing to the wealth of its merchants, great political weight as well as mercantile power. "To have a plantation in Jamaica," says the author of *Colonisation and Empire,* "was to be an object of envy; it was much the same as being an Indian Nabob." The wealth of the West Indies, however depended at that time too exclusively on one commodity, sugar, and also was based upon the institution of slavery, which the humanitarianism of the nineteenth century very soon refused to tolerate. Flourishing as the islands were at the opening of the century, the abolition first of the brutal traffic in slaves from Africa (in 1807) and then of the ownership of any slaves at all (in 1833) proved a severe blow, not only to the planters themselves but to their mercantile connections in England.

But even if slavery had not been abolished, it is evident now, looking back on the commercial development of other parts of the world in more recent years, that the sugar trade could never have remained permanently the almost exclusive monopoly of the West Indian planter, as it was in those days. Their prosperity depended too much on retaining the chief control of the sugar industry and their monopoly was sure, sooner or later, to feel the force of outside competition. There are other regions in the world which can produce sugar, and, as international commerce developed further, they entered the field; Brazil, British Guiana, Cuba, the United States and Mauritius all contributed their share of production. Worse, however, even than the competition of other countries was the competition of another plant. Beetroot was discovered to be capable of giving a large quantity of sugar by proper processes of extraction, and this beet sugar manufactured in Europe with all the aid of modern appliances, and supported by heavy bounties from the French and German Governments, soon became an unpleasant rival to the sugar extracted from the cane.

The idea of supporting the beet-sugar trade by State aid was originated by Napoleon I, who perceived that thereby a blow might be dealt to the industry of the West Indies and the trade of England; and it must be admitted that he did more harm to the colonial trade of his great enemies by this commercial service than he ever did by means of his ships of war. Even now the loss caused to England by the decline of her West Indian islands has hardly been compensated by the fact that her own population enjoy the blessings of cheap sugar from any part of the world which chooses to send it. It was not, indeed, till nearly the end of the nineteenth century (1890) that beet sugar was actually produced in larger quantities than cane sugar, as we shall see later, but of course the competition which has become keener and keener as years have gone on has placed the West Indies in a very different position from that which they occupied in the year 1800.

Some idea of the importance of the sugar trade of the West Indies may be gained from the fact that the average annual amount retained in England for home consumption alone was 2,500,000 cwts., in the period 1795–1805, the actual amount in the years 1799 and 1801 being over 2,770,000 cwts., though in 1800 it was temporarily smaller. This does not include the amount sent away for foreign use, which would bring the total up to nearly four million cwts. The last year in which this amount (4,000,000 cwts.) was imported into Great Britain was 1831; ten years later it had already sunk to just half this figure, being only 2,151,000 cwts. in 1841.

At the time of which we are writing, however, (about 1800), the West Indian sugar trade had assumed very large dimensions. The increase in the consumption of this article in Great Britain had been extremely rapid during the eighteenth century, its use progressing side by side with the introduction of tea and coffee as popular beverages. In the year 1700 the quantity consumed was about ten thousand tons, but during the first half of that century its use increased fivefold, there being in 1754 quite fifty-three thousand tons consumed. Towards the end of the century, 1786–90, the annual average consumption had risen to 81,000 tons. The trade formed also an important contribution to the British revenue, owing to the heavy duties it bore. In Queen Anne's reign the duty was 3s. 5d. per cwt., and though small additions were made to it, the payment was still only 6s. 8d. in 1780 under George III. But after this the duty was raised higher and higher: in 1791 it was 15s., in 1797 it rose to 17s. 6d., till in 1806 it came to 30s. The reason of this high duty was mainly that sugar formed a convenient article to tax because "its increasing consumption pointed it out as well fitted to contribute to the public revenue," and during the French wars the English Government certainly required all the money it could obtain. Foreign sugars were practically prohibited by the high duty of 63s. per cwt.

Sugar, however, was not the only article exported from the West Indies. The statistics of the year 1800 show us that they sent out rum, coffee, chocolate, ginger, pimento, cotton, indigo, dye-woods, mahogany, cedar, ebony, castor oil, drugs of various kinds, and also tobacco and some hides, the value of the exports being nearly six million pounds sterling (£5,805,787 exactly), while the imports, valued at three millions and a half, consisted, as was natural, mainly of articles of British manufacture. The West Indian colonies thus furnished by far the largest portion of our colonial trade.

Passing round the globe from West to East, we pass the great continent of Africa before coming to the trade with the East Indies. In 1800 England had not yet finally taken possession of the Cape of Good Hope, and we may therefore exclude it from our survey. The oldest settlements were those made in West Africa: Sierra Leone, a colony for the residence of freed slaves, being established in 1787 and made a Crown Colony in 1808, while Gambia dates as far back as 1588, when stations were established there for trading purposes. The Gold Coast Colony was obtained by purchase in 1661, and all of these regions furnished in 1800 much the same products as they do now. In that particular year the African exports had declined from £120,000 in 1796 to £96,500, though they seem to have taken over a million sterling of British goods as imports, but a large item in the list is furnished in 1800 by guns and ammunition. Their exports consisted of palm oil, gums, ebony, redwood, ivory, ostrich feathers and skins; while the Cape sent also skins and a little cotton and wine.

CHAPTER XI.

BRITISH COLONIES AT THE BEGINNING OF THE NINETEENTH CENTURY (*continued*).

(3) INDIA AND THE EAST.

But when we come to the East Indies we find that here commerce was as important as in the West Indies. The vast resources of India were now being opened up, as well as the trade with the islands further east, and with China. Of course it will be remembered that at this time (1800) the old East India Company had control of India, both in politics and commerce, besides having a monopoly of trade, and it was not till 1813 that this monopoly was abolished. The story of the conquest of India is one of fascinating interest, but in a review of industrial and commercial progress we cannot do more than merely allude to it. In the year 1780 the East India trade only formed one thirty-second part of the total foreign trade of the United Kingdom, but at the beginning of the nineteenth century it had considerably increased, in proportion as the power of the Company grew, and new States came beneath its sway. The Company had many wars, and often were in severe difficulties; and it is interesting to note that it was in India that the young Arthur Wellesley, afterwards the Duke of Wellington, gained his first great battle, at Assaye, in 1803, when his brother, the Marquis of Wellesley, was Governor.

The chief emporium of trade was then Calcutta, which in 1717 was only a petty village, but which increased very rapidly and was estimated at the close of the eighteenth century to have some 600,000 or 700,000 inhabitants. This figure, however, must have been a great exaggeration, for when in 1837 a proper census was taken there seems to have been only 229,700 people, though even this represents a large city. The principal merchants and traders besides the British were Portuguese, born in India, and Armenians, though these two latter classes greatly declined in wealth and importance before the nineteenth century had proceeded very far, while the Parsee and Hindu merchants increased.

It is remarkable that at the beginning of the century, and especially previous to the abolition of the Company's monopoly in 1813, cotton piece goods formed a very important article of export from India, the average value of those exported from Calcutta being well over a million sterling per annum. "The extreme cheapness of labour in India," remarks McCulloch, "and the excellence to which the natives had long attained in several departments would, it might have been supposed, have sufficed to place this important department beyond the reach of foreign competition. But the wonderful genius of our mechanists, the admirable skill of our workmen, and our immense capital, have far more than countervailed the apparently insuperable drawback of hig wages and the expense of bringing the raw materia of the manufacture from America and even India itself, and have enabled our manufacturers to bear down all opposition and to triumph over the cheaper labour, contiguous material and traditional art of the Hindus." There are few more conspicuous examples of the complete diversion of a manufacture from one country to another than this of the cotton trade from India to England, for during the whole of the century the amount of cotton goods imported by India has steadily grown till it is now counted by millions sterling.

It is a curious fact with regard to our Indian trade that even in the palmy days of the old East India Company it was never so large as has been popularly supposed. The popular impression was no doubt founded upon the large fortunes acquired by private trading and various other means, by individual merchants or by the officials of the Company. Thus during the three years ending in 1773 the value of the entire exports of British produce and manufactures was under half a million sterling per annum (about £489,000 exactly), and only twenty-three ships sailed annually for India. But for the increasing consumption of tea in England at the close of the eighteenth century it is probable that the Company's trade would have been very insignificant. In 1780 the value of British produce and manufactures exported by the Company was again small, being only £386,152. So late as 1789 Lord Cornwallis, the Governor, remarked that "one-third part of the Company's territory is a jungle for wild beasts." But during the closing years of the century the trade greatly improved; in the three years ending with 1793 the annual exports of British goods to India remained fairly constant at about a million sterling, though the expenses of government were so great that the Company's revenue account for the year 1793 showed a deficit of £1,319,000.

So rapid were the acquisitions of territory, however, immediately after this that the revenue of some eight million pounds in 1797 was increased to over fifteen million in 1805. But the expenses of government and the interest on loans previously contracted remained so heavy that down to 1812 there was a constant excess of expenditure over income. Still trade continued to grow, though it is noticeable that the exports by the private and the "privileged" trade, that is by the commanders and officers of the Company's ships, were as large as those made by the Company itself: the amount of both being from £800,000 to a million per annum, or rather less than two million as a total. In the year 1800 the total exports of British goods not only to India, but to all the East Indies and other parts of Asia as well, was £2,835,063, thus showing that the amount of two million annually to India alone remained very much the same about this time.

When we return to the imports from the East to England we find that just as sugar formed the mainstay of our trade with the West Indies, so tea was the mainstay of the East Indian trade. "The late rise and present magnitude of the British tea trade," remarks McCulloch, "are among the most extraordinary phenomena in the history of commerce." From its origin down to the year 1834 this trade was entirely the monopoly of the East India Company, and it must have been extremely profitable to them. Tea was almost wholly unknown to the English down to about the days of Queen Anne, though it was imported in small quantities by the Dutch and occasionally drunk, as a curious and rare beverage, by enterprising spirits of the seventeenth century. The famous Mr. Pepys in his *Diary* under date 25th September, 1661, notes: "I sent a cup of tea, a

China drink, of which I had never drunk before." In 1664 the East India Company bought 2 lbs. 2 oz. of tea "as a present to His Majesty" (Charles II). They sent their first order for tea, a modest hundred pounds weight, to their agent in Bantam in 1667. About fifty years later, in the year 1720, it had become a regular import into England, there being at that date 237,904 lbs. retained for home consumption. Fifty years later again, in 1770, the quantity retained for home consumption was well over seven million pounds, and from that time forward it went on ever increasing till in the year 1800 we find what was then the extraordinary total of twenty-three million pounds (weight) retained for home use in Great Britain and Ireland.

The import duty on tea was for a long time very high, as much as 119 per cent, and this of course made it worth while to indulge largely in the practice of smuggling it, but after Pitt in 1784 reduced the duty to only 12½ per cent, smuggling soon ceased and so also did the equally reprehensible practice of adulteration. Owing to the exigencies of finance, however, the duty was gradually raised during the war period that followed till in 1806 it was 96 per cent *ad valorem,* and in 1819 it rose to one hundred per cent on all teas sold by the Company at more than two shillings a pound. The duty alone in that year amounted to more than three and a half million sterling as compared with a duty of a little over a million sterling in 1800. The amount of coffee, and of course the revenue derived from the duty on it was very small indeed in proportion to tea, there being in 1800 only 826,590 pounds (weight) retained for British consumption, and of this some came from the West Indies as well as from the East.

Another very important item of the East India trade was indigo. Before 1783 the European markets for this product were chiefly supplied from America, but after this date, when the English took possession of Bengal and turned their attention to its cultivation, the supply from India increased very rapidly. During the nine years preceding the abolition of the East India Company's monopoly in 1814, the average annual produce of indigo in Bengal for export was fully five million pounds weight. Spices of various kinds were another valuable article of commerce.

Taking a general survey of the commodities imported from India, the East Indies and all parts of Asia, as given by Macpherson in 1800, we find the value of the whole trade amounted to not far short of five million sterling (exactly £4,942,241); the list he supplied includes, besides tea, coffee, indigo and spices, already referred to, the items of canes, drugs, sugar, gums, oils, cochineal, ink from China, galls, turmeric, seed-lock, ivory, fans, sago, rice, cassia, ebony, sandal-wood, satin-wood, fruits, wool, goats' hair, raw silk, calicoes, muslins and various minor commodities.

CHAPTER XII.

BRITISH COLONIES AT THE BEGINNING OF THE NINETEENTH CENTURY (*continued*).

(4) AUSTRALIA.

WE pass now to a region which at the beginning of the nineteenth century was almost unknown to traders and even to geographers. The great island-continent of Australia had only just been occupied and the notices of trade with it are of the scantiest description. In the records of the year 1800, from which the previous statistics have been derived, Australia is mentioned under the name of "New Holland and the Southern Whale Fishery," and it is stated that the exports are "the same as from the Greenland seas, with a little wood and some birds," being valued at eighty-nine thousand pounds. The imports consisted of brandy, geneva, and wine for ship stores, and of wrought iron, hardware, cloth and groceries, valued at some twenty-five thousand sterling. As these figures, small as they are, refer almost exclusively to the produce and necessities of the whale fishery, we may see how insignificant were those territories which have since taken such a commanding position in the British colonial Empire.

The very name of Australia was as yet unknown. Part of the coast had been touched at by Dutch explorers on several occasions between the years 1601 and 1622, though the first authenticated discovery of land is said to have been made by a Portuguese named Manoel de Eredia in the first of these years. But the Dutch went there more frequently, and thus the whole region of Australia and the adjacent islands became known as "New Holland." The first Englishman who seems to have visited the mainland of Australia was the navigator William Dampier in January, 1688, who landed on the north-west coast to refit his ships, and spent some weeks there.

But the first explorer to see the value of Australia as a place for colonisation was undoubtedly Captain Cook, who landed at Botany Bay in 1770 and noted that it was a suitable spot for agricultural operations. It was his report that induced the British Government to found a settlement there, and it occurred to the mind of statesmen of that time that the new continent might afford to convicts an opportunity of making a new start in life, besides being at a convenient distance in case the new start was as bad as the old. Accordingly, in January, 1788, exactly one hundred years after Dampier's landing on the north-western shores, the first regular colonising expedition, known to history as "The First Fleet," anchored in Botany Bay and proceeded to occupy the adjacent land. The head of the expedition was Captain Phillip, and the words of his first formal public speech in the new colony were prophetic of the splendid future that lay before it: "What Frobisher, Raleigh, Delaware and Yates did for America, that we are met this day to do for Australia, but under happier auspices. We are here to take possession of this fifth division of the globe on behalf of the British people and to found a state which we hope will not only occupy and rule this great country, but will also be the beneficent patroness of the Southern hemisphere. How grand is the prospect which lies before this youthful nation!"

But grand as the prospect was, the initial difficulties of the colony were very severe. They were increased by the type of colonist, for convicts were naturally not the persons best fitted to found a new nation or to face the difficulties of honest but arduous toil. On more than one occasion the stock of provisions ran so short as almost to threaten starvation, but in a few years' time the success of the tillage on the lands near Sydney and Paramatta relieved men's minds on the score of food. A few free emigrants came in 1792, and others again in 1796 and 1798, and real progress began to be made in agriculture. Before the end of the century New South Wales, as the colony was called, had made an effective start upon its career, and had already discovered the source of much of its later wealth.

This was, of course, the production of wool for the English market, and the trade is important enough to justify some notice of its early beginnings. The time was propitious, for the manufacturers in England were now able, owing to the new machinery before alluded to, to weave woollen cloth much faster than before, while two other causes combined to improve the prospects of the Australian export. One of these was the fact that the English supply of wool was becoming insufficient, owing to so much land being sown with wheat instead of being used for pasture, since foreign war interfered with the supply of corn to England from abroad. The other was that the same war, as we shall see later, caused great hindrance to all Continental manufacturers, while the English, not being invaded, were able to carry on theirs as usual, and thus were in a position to supply the Continental market with woollen cloth.

The introduction of sheep to Australia therefore proved a great blessing to both the old country and the new, and created a magnificent industry for Australia. It was owing to the efforts of an enterprising military officer, Captain John Macarthur, that sheep of good breeds were brought to the colony, notably some Spanish merinos which he obtained in 1797 from the Cape of Good Hope from a small flock presented by the King of Spain to the Dutch Government, for the Cape was at first in the hands of the Dutch. Captain Macarthur had resigned his commission in the army and soon found himself the owner of thousands of sheep pasturing on the [illegible]cellent land near Paramatta. In 1801 he went to England, taking with him fleeces of such good quality that British manufacturers soon perceived that they had in Australia a supply of wool equal, if not superior, to that of Spain and Saxony, whence formerly their foreign supply had been chiefly procured. Macarthur was rewarded in 1804 by a special grant of ten thousand acres of land from the Government, which are known as the Camden estate, lying some forty miles south-west of Sydney.

Thus was a source [illegible] wealth opened up to Australia which has been in some ways more truly profitable than even the world-famous discoveries of gold. The year 1800 saw the young colony firmly settled. Agriculture and sheep-farming were steadily gaining ground, and though the total population numbered only some six or seven thousand persons, they were constantly taking up new land and widening their sphere of industry. Nor were agriculture and sheep farming the only occupations; the harbours became the seat of the southern whale fishery, and places of call for sailing vessels, and though, as we have seen, the actual export and import trade was then insignificant, there had already been sown the seeds of an extensive and flourishing commerce. The story of the Australian colonies is a striking example not only of colonial growth, but of the progress of commerce and industry generally in the nineteenth century, for the opening of this period saw their infancy, while its close leaves them to-day in the full vigour of strong and healthy manhood.

CHAPTER XIII.

THE CONTINENTAL WARS UP TO 1815 AND THEIR EFFECTS ON COMMERCIAL PROGRESS.

In previous chapters we have gained an idea of the state of the chief European countries at the opening of the nineteenth century, or just before it, as well as of the commercial position of America and the British colonial possessions. We have also seen how, just before the century commenced, industry had been revolutionised by a wonderful series of mechanical inventions and by the use of steam power both for motive force in machinery and for purposes of locomotion. We are now, therefore, in a position to survey the history of the century as it unfolds itself, and to understand some of the great forces which had just come into operation.

We notice, however, at the outset that industry and commerce were at first sorely hampered in many countries by the fear, and often by the presence, of constant war. The French Revolution brought in its train a series of international conflicts which lasted some twenty years or more, and which were only terminated by the great peace after the battle of Waterloo in 1815. It is impossible, in the pages of this particular volume, to trace the progress of all these wars; they belong to military and political history. It is sufficient to notice that Napoleon I had already raised himself to power as First Consul (in 1799) and was attempting to carry out vast schemes of conquest not only in Europe but in Asia. He foresaw the magnificent possibilities of India, and wished in any case to deal a blow wherever he could at the colonial extension of England. But the French fleet had been destroyed by Nelson in the battle of the Nile in 1798, Napoleon himself had been foiled in the attempted conquest of Syria, and in 1801 the French army in Egypt was defeated by Sir Ralph Abercromby at the battle of Alexandria. A treaty of peace was signed between France and England at Amiens in March, 1802, but lasted only a very short time.

During the peace England experienced a year of great commercial activity and prosperity, the imports being valued at twenty-nine millions and the exports at thirty-eight millions sterling. But the very next year (1803) war broke out again, and Napoleon attempted, though in vain, to invade England. In 1804 he caused himself to be declared Emperor of France. His attempt to invade England was foiled, and at length the dream of conquering England on the sea was rendered hopeless by the crushing defeat of the French fleet by Nelson off Trafalgar on 21st October, 1805. The same year, however, saw (on December 2nd) a great victory on land for Napoleon, who at Austerlitz, near Vienna, inflicted a crushing defeat upon the armies of Austria and Russia.

These two great victories, that on the sea for the English and that on the land for the French, give the key to the peculiar characteristics of the long duel between the two nations which lasted from 1803 to 1815. A duel is the right name for it, for France and England were the two main combatants, and other nations joined first one side and then the other, according to the exigencies of the conflict. But the duel, it has been aptly remarked, had one characteristic: neither of the two contending parties could attack the other directly. The battle of Austerlitz practically made Napoleon supreme on the continent of Europe, while the battle of Trafalgar made England supreme on the sea, and destroyed any hopes of the possibility of invading her. Thus the two nations were compelled to fall back upon indirect methods of warfare, and the manner in which it seemed to Napoleon that he could do the most harm to England was to attack her commerce. It was for this reason that he adopted the measures which are known generally as the "Continental system," and which are chiefly exemplified in the historic Berlin and Milan decrees.

The effect of these, and the difficulties which they caused, not only to England, but to the commerce of all other nations, cannot be understood without a passing reference to the question of commercial neutrality. There was nothing new in the methods of these decrees, except the vast scale on which they were applied. In previous wars of the eighteenth century, England had sought to cut off France from the commerce with her colonies, and not without success. But the result had largely been to throw the trade into the hands of neutral nations. To prevent this England had laid down the rule in 1756 that a neutral had no right to relieve a belligerent by carrying on a trade in time of war, from which it would be excluded during peace. Other nations had contested this application of law and the states of Northern Europe had twice (in 1780 and 1800) concluded an "Armed Neutrality," in order to assert the principle that "free ships make free goods," that a neutral may carry any commodities except such as are contraband of war, and that a blockade can only be respected when it is effectual. The difficulty of applying these principles was soon seen as a result of Napoleon's action.

It was in 1806 that those measures were openly taken which aimed at the destruction of British commerce. The facts of the case are these: In May, 1806, the English Government notified to the ministers of neutral powers that the whole coast from the River Elbe in Germany to Brest in France was blockaded against the introduction of contraband of war, or goods belonging to the enemies of England, while the coast from Ostend to the mouth of the Seine was subjected to a rigorous blockade. This declaration was the ostensible cause which induced Napoleon to issue the "Berlin decree," dated from that city, which he had just occupied, on 21st November, 1806. The preamble asserted that England had violated the law of nations (1) by extending to private property on the seas a right of capture which on land applies only to the property of the state; (2) by extending to unfortified towns and ports a right of blockade which is only applicable to fortified places; (3) by declaring places blockaded where there is not a single vessel and "places which all the united forces would be incapable of blockading, such as entire coasts and a whole empire."

On these grounds Napoleon proceeded to act in the very manner in which he accused England of acting, and decreed (1) that the British Islands were in a state of blockade, and (2) that all commerce with them was prohibited; (3) that every English subject in countries occupied by French troops, or those of their allies, would be made prisoners of war; (4) that all property of an English subject was a lawful prize; (5) that all merchandise belonging to England, or produced by her manufactories or colonies, was also a lawful prize, and finally (6) that no ship coming direct from England or her colonies should be received at any port.

Economists have remarked, with their usual wisdom, after the event, that it would have been wiser for England to have taken no notice of this decree, but to have waited to see its effect upon the subjects and allies of France who would have certainly shown their discontent at the manner in which it interfered with trade. They point out that the hostility of the United States, for example, would have been roused against France, and that they would have been able to make an effective protest. No doubt if men's passions were always perfectly under control, and their foresight was invariably correct, this course would have been adopted. As it was, however, human nature and the passions roused by war guided the British Government even more than the principles of economics, and they naturally issued a counter-blast in the shape of an "Order in Council" dated 7th January, 1807. This order declared that no vessel should be allowed to trade between one port and another belonging to France or her allies; that neutral vessels attempting such a voyage should be warned by English men-of-war and privateers, and that if they disregarded the warning they should be captured as a lawful prize.

The actual operation of the decree and the order is a matter of some interest. According to the recognised law of nations the Berlin blockade was invalid, because to constitute a valid blockade it is essential that the blockading party should be able to enforce it. For some time the attempt to enforce it was actually made by Napoleon, and in the first three or four months after the promulgation of the Berlin decree many vessels of neutral powers were seized for infringing it, brought into the ports of France and condemned. The only neutral power that could have offered any effectual opposition to this course of proceeding was the United States; but it was urged by the Americans as a reason for not moving in the matter that they had obtained an assurance from Napoleon, though not in an official form, that the Berlin decree would not be put in force against their vessels. "Upon this condition or understanding," remarks the author of the *History of British Commerce* (Mr. G. L. Craik), "they were perfectly willing, it would [illegible] that it should be applied to the interruption [illegible] commerce of all other neutrals; and doubtl [illegible] would have been for them a sufficiently convenient and profitable arrangement, not only leaving them to pursue the trade that fairly belonged to them undisturbed, but clearing the seas of all their rivals, and throwing into their hands a monopoly of the carrying trade between Britain and the other countries of Europe.

"Possibly in the circumstances, this might have been a condition of things not disadvantageous to England either; in the condition to which the world was reduced, with so many of the channels of our old commerce shut against us, this outlet for our produce and manufactures through the United States ought perhaps to have satisfied us. The Whig ministry, however, which was then in power," continues our author, "did not think it proper or becoming to acquiesce in silence in the novel and extraordinary pretensions put forth by France; hence the Order in Council.

When this measure was found to have failed in its effect and to be considerably evaded, while on the other hand the French made continued efforts to enforce the Berlin decree, the British ministry issued (11th November, 1807) further Orders in Council, by which not only France, but all the countries subject to it, were declared to be in a state of blockade, and all vessels attempting to trade with France or her allies were liable to seizure. No neutral vessels were to be allowed to trade with France or any other hostile country, unless they had first touched at some British port and had received permission to pursue their further voyage under certain defined regulations. Thus between the French and English decrees the trade of neutrals was practically brought to a standstill, as whichever side their vessels obeyed, they were liable to be seized by the other.

Napoleon promptly retaliated upon the English order by his decree dated from Milan 17th December, 1807, containing the following provisions: (1) Every ship of any nation which obeyed the English order was declared to be denationalised and considered as British property, and therefore, of course, liable to seizure; (2) the British Isles were again declared in a state of blockade " by sea as well as by land," and every ship going to or from a British port or ports of British colonies was declared to be a prize of war. These measures, the decree stated, " shall continue to be in force until the British Government returns to the principles of the law of nations, which regulates the relations of civilised states in time of war."

CHAPTER XIV.

THE RESULT OF THE NAPOLEONIC BLOCKADE.

The result of these conflicting decrees was to hinder most seriously the progress of trade, and although impossible to carry them out strictly, England had a better opportunity of doing so than her enemy. The value of British manufactures sent to the United States remained in 1806 and 1807 very much what it had been before, but those sent to the continent of Europe only amounted to some nine million sterling as compared with thirteen million in 1805. One result, perhaps the chief practical outcome of the blockade, was to encourage smuggling, which was now carried on to an enormous extent. Goods were, somehow or other, taken to the blockaded ports, though their prices were naturally raised owing to the risk and danger attendant on running the blockade. But the most remarkable feature of the whole circumstances was the way in which the governments of both France and England connived at the system of smuggling, and actually made money by granting permission to individual ships to disregard their prohibitions. Licenses were regularly issued by the governments of both countries allowing an evasion of their respective regulations. Napoleon is said to have made no less a sum than four hundred million francs by the sale of these licenses, which formed a portion of his private revenue; and though this sum never appeared in the public accounts, it is said that from it were derived the means for the stand he made against the combined states of Europe in 1813 and 1814. It is also evident that the English Government must have made a good deal of money in the same way, for the number of licenses issued rose from 791 in the year 1805 to over eighteen thousand in 1810.

The general effect of the double blockade, however, was certainly to injure France far more than England. Indeed some historians have thought that, though it interfered greatly with international commerce and industry, English trade actually benefited by it. France, which had enjoyed a large trade, both East and West, in sugar and coffee, lost this branch entirely, and it fell into English hands. To Napoleon himself the consequences were even more serious, for the blockade was one of the main causes of his ultimate downfall. To render his blockade system absolutely complete it was necessary that he should make himself master of Europe and compel obedience to his decrees. It was this desire that moved him very largely to send out the expeditions against Spain and Portugal, and which led him into the terrible disaster of the war with Russia, with its march to Moscow and the subsequent retreat, that broke his power more than any other defeat could have done.

Then again the discontent aroused against France by the inconvenience, and in some cases positive suffering, caused by the blockade among the various nations of Europe, created a feeling against the supremacy of France which had not existed among the masses of the people of other nations at the beginning of the Revolutionary wars. "The French," it has been remarked, "always professed to be the enemies of dynasties but the friends of the people, and their professions had long been believed. The 'continental system' quite destroyed that belief, and the Napoleonic empire fell before the popular hostility which his measures against England had excited."

It must be remembered, however, in Napoleon's defence, that he had in view an object which, if it could have been attained, would have placed France in a splendid position for defying the rest of Europe. This object was to render France quite independent of foreign supplies and manufactures, and to let her become, in one word, economically self-sufficing. Napoleon laid down the principle that France should be self-sustaining in the production of all that was necessary to her maintenance, so that in time of war she would not feel the loss of foreign supplies. Thus "he had prepared the French in some measures to submit to industrial burdens by restoring the imposts upon wood and salt, and by making the tobacco trade a government monopoly. As Chief Consul he also established several of the old trade corporations, and as Emperor he carried this further, by surrounding various divisions of industry with regulations. Trademarks were rigorously protected in the interest, it was thought, of the consumer who was certified of the quality of the goods; but this made government surveillance necessary through the whole process of manufacture, until the proportion of alloy in jewellery, the number of threads in an inch of cloth, the size of every tissue and the colours of their selvages, with officers and juries to verify these things, all became subjects of legislation." (Yeats, *Growth of Commerce.*)

It was very largely this object that caused beetroot to be grown to take the place of sugar, and chicory to take that of coffee. The idea, however excellent in theory, became impossible in practice, for the world is so constituted that one country can produce what another cannot, and the very essence of commerce is the exchange of that which is not wanted for that which is wanted. But the desire shown by Napoleon to make his own country self-sufficing and self-maintaining was the root of much of that protective policy which has been so great a hindrance to the complete freedom of commerce between nation and nation.

Upon England the effects of the blockade were not so serious. Her navy had made her supreme on the seas, and therefore her merchant ships had little to fear from foreign foes, though the difficulty remained how to get cargoes into foreign ports. Smuggling, as we have seen, was the chief means, and then by a roundabout system of shipping goods through German and Italian ports, British merchandise sooner or later found its way even into the hands of French consumers. It is said that Napoleon himself, when anxious to provide his army with warm clothing on the march into Russia, was fain to clothe his soldiers in English woollen cloth. It is true that, as the great historian of prices, Mr. Tooke, has observed, "the close of the year 1807 found England, by the events of the war, excluded from *direct* commercial intercourse with every country in Europe, Sweden excepted;" and there was consequently in many instances a scarcity in the supply of raw material as well as a difficulty in getting rid of our exports. But indirect commerce went on, nevertheless. British manufacturers complained bitterly to the Government that they were unable to find an outlet for their goods; but the official figures of imports and exports show that, after all, the loss on the whole commerce of the country could not have been very great.

The figures of trade during the years of war certainly show occasionally some slight decline but not great enough to be very serious. Taking British produce and manufactures only we find the declared or real value of the goods to be in the various years as follows:

1798	33,148,000	
1799	38,942,000	increase.
1800	39,471,000	increase.
1801	39,730,000	increase.
1802	45,102,000	increase.
1803	36,127,000	decrease.
1804	37,135,000	increase.
1805	37,234,000	increase.
1806	39,746,000	increase.
1807	36,394,000	decrease.
1808	36,306,000	decrease.
1809	46,409,000	increase.

In this list the year of peace (1802) is very prominent with a sudden increase of exports, and it is noticeable that the exports in the year 1809 reach a high figure. In this latter case, however, the rise in exports corresponds to a rise in imports, as merchants were making special efforts to import larger quantities of goods than usual owing to the low prices prevailing on the Continent, and the exports were sent out to pay for them. In the two last years of warfare, 1814 and 1815, the exports of British commodities rose to forty-three million and forty-nine and one-half million respectively, showing an increase of ten million sterling since 1800. Considering that down to 1840 the value of the exports of British produce and manufactures fluctuated between thirty and fifty millions sterling, it is very evident that the fluctuations experienced during the period of war (1795–1815) were no greater than we might have expected even in ordinary circumstances, and, in view of the disturbed state of England and Europe, they were indeed less than we should have otherwise supposed.

The fact was that not only were the ports of Europe closed more in appearance than in reality to English goods, but that an important new market had arisen elsewhere. This market was South America. The seat of the government of Portugal was, in consequence of Napoleon's invasion of the Portuguese and Spanish peninsula, transferred to the then Portuguese colony of Brazil (in 1808), while at the same time, as has been mentioned previously, the Spanish-American colonies in the South were becoming more and more independent. Thus, about the year 1808, South America assumed a much greater commercial importance than formerly, and, as England had command of the ocean highways leading to that continent, the newly developing markets became for a time almost an English monopoly. British merchants and manufacturers were not slow to take advantage of this new opening for trade; indeed they rushed into it with all the ardour of a novel speculation. More Manchester goods were sent out to South America in a few weeks than in the twenty years preceding, and the quantity of English exports poured into the city of Rio Janeiro was so great that warehouses could not be provided sufficient to contain them, so that "the most valuable merchandise was actually exposed for weeks on the beach to the weather and to every sort of depredation." Some speculators, it is recorded, were evidently so ignorant of the climate of the country they wished to trade with that they sent out a consignment of skates to Rio Janeiro. The best indication of the extent of the new trade may be seen in the comparison of the figures of the exports to the United States which in 1808 were only worth some five million sterling, as compared with sixteen and a half million sent to other parts of America, mostly to the Southern half of the continent.

CHAPTER XV.

THE WAR BETWEEN ENGLAND AND THE UNITED STATES, AND OTHER EFFECTS OF THE CONTINENTAL BLOCKADE.

BUT this comparison brings us to a very unfortunate part of our story of commercial progress. It was first with the United States that the ill effects of the blockading policy of both England and France were most visible, and it was here that England suffered her greatest commercial loss. We come to a very unpleasant episode in the history of our relations with the United States. "It was inevitable that the enmity of neutrals should be directed less against the state which originated the 'Continental system' than against that which had the power to enforce it." The power lay in the hands of England far more than in those of France, and it was for this reason that the American Republic came into conflict with its British cousins rather than with Napoleon whose edicts had in reality created the situation.

In the year 1808 the American congress passed an act of embargo prohibiting all intercourse with England and France as long as the two countries maintained their decrees. This embargo, or prohibition to American vessels to leave their ports, was afterwards admitted by President Jefferson to have been a measure preparatory to war, as it enabled merchants to recall their ships and sailors, and gave the Republic time to collect its resources.

This action caused considerable discontent in American commercial circles especially in the New England states, and the embargo law was repealed in March, 1809, though intercourse with France or England was still forbidden. In the hope of conciliating the Americans, England modified her Orders in Council in April of the same year by opening to American vessels the Baltic, the North Sea, part of Italy and the foreign possessions of the Dutch; but in August the policy of no intercourse was resumed. The situation was further aggravated by disputes as to the claim made by England of her right to search American vessels for deserters from the British navy. Such a claim, though perhaps natural in time of war, was naturally the cause of a great deal of unpleasant friction between English men-of-war and neutral American vessels which they searched.

What made matters worse was that Napoleon, only too glad to harass England in any possible way, offered to withdraw his decrees if England would revoke the Orders in Council. To this, of course, the English were hardly likely to agree as they could enforce their Orders much more strictly than Napoleon could enforce his decrees, while, in any case, the existing state of things, bad as it was, was more in favour of themselves than of the French. At the close of the year 1810 the situation as between England and the United States had grown worse instead of better, and the American ambassador left England. Next year (1811) Congress proceeded to active measures of preparation for war, by voting an increase of the regular army to thirty-five thousand men, by increasing also the navy, and raising a loan of eleven million dollars. Finally the United States declared war against England on the 18th of June, 1812, just five days before the Orders in Council, the bone of contention, were revoked by the English Government. But the revocation came too late.

The events of this deplorable war, which was conducted with great bitterness on both sides, reflect little credit on either nation. It is certainly unfortunate that war between the United States and England should have broken out, but it must be remembered that quarrels about matters of trade are usually the most serious and bitter of all, because they touch the pocket of the individual and not merely his honour or his conscience. It is only fair to both sides to say that, from their own point of view, each had great provocation from the other. England was especially hard pressed in the great continental struggle that was going on, and was compelled to use every effort to maintain her maritime supremacy and the course of her foreign trade. The American States saw their carrying trade, which was growing rapidly, in danger of being reduced to insignificance by the regulations affecting neutral vessels.

The Americans complained also of the high-handed proceedings of British officers in interfering with their merchant vessels; while the English had good cause to complain of the American system of turning British sailors and other subjects into citizens of the United States. British sailors were tempted to enter the American navy and mercantile marine by tempting offers of higher pay and better treatment. "At New York, Boston, and other large seaports, there were register offices where English deserters, and adventurers of every class, upon payment of a small fee, received a certificate of American citizenship, and there is good evidence," says the author of *Our Empire at Home and Abroad,* "that in order to evade the law requiring five years' residence before a foreigner could become a naturalised citizen of the States, an old woman kept a big cradle in which full-grown Britons were rocked, so that she might swear as she did, that she had known them from their cradle." Whether these tales are true or not, it is evident that there were sufficient causes of ill-feeling on both sides and the anger of the English was not unnaturally further aroused by the attempts of the United States to turn the Canadians away from their loyalty to the English crown. Fortunately these attempts did not succeed, and the Canadian settlers remained steadfastly loyal to England.

It is noticeable that the war against England did not meet with the unanimous support of all the States of the Union. The New Englanders were especially opposed to it, and several of the chief commercial cities, and the States of Connecticut, Massachusetts and New Jersey, protested against it. Their attitude was due to the fact that the war interfered greatly with their rapidly extending commerce; and the efforts of the British navy and army were specially directed towards the destruction or damage of trade. The ravages of the English along the coast were, in fact, very serious, and it is remarkable that the New England states were more angry with their own government for having brought on the war which led to them, than with the English soldiers for having committed them.

The commercial aspects of the war may be illustrated by several interesting details. A horde of pirates took advantage of the general confusion prevailing on the ocean highways, and established themselves at Barataria near the mouth of the River Mississippi, committing depredations upon the commerce of ships of all and any nationality. The Spanish at Pensacola encouraged the English, whose army was supplied with provisions from New Orleans, so that it became one of the main objects of the American general in the South to interrupt the commerce between these two places. The cotton trade of the Southern states was, of course, quite interrupted.

On the other hand, the trade of England with the West Indies suffered very greatly. "The lowest point of depression of West Indian produce and of other commodities, including manufactures, calculated for the markets of the Continent of Europe and of the United States, occurred at the close of 1811 and the early part of 1812." All articles of British manufacture, usually destined for the United States, experienced the greatest depression during the war; and towards the end of it the export trade had been practically destroyed. This may be seen from the fact that in 1814 the total declared value of exports of British and Irish produce and manufacture amounted to over forty-five million pounds sterling, of which only the most insignificant fraction went to the American Republic, namely eight thousand pounds worth. This is a remarkable contrast to the total of over eleven millions sterling exported to the West Indies and Canada in the same year. The war was fortunately brought to a close by the Treaty of Ghent in December, 1814.

The loss caused to England by this second American war was not the only damage she endured during the long period of the conflict with Napoleon. Though, on the whole, England managed to carry on trade in a really remarkable manner, there were often occasions when in particular regions she was unable to do so. Thus, while the Baltic ports and the countries in the North of Europe were closed to us in 1810, trade was certainly carried on, but in that year alone no less than five and a half million sterling was paid out for foreign freights because it was impossible to employ British shipping with any safety in that part of Europe. The South American trade became, as we have seen, a source of much profit and compensated for other losses. In the same year 1810 a commercial report in the *Monthly Magazine* remarks: "Since our last report the manufactories have revived in a great degree, chiefly owing to large orders for all kinds of woollen, linen and cotton goods having arrived for the markets of Portugal and of South America. The goods of Birmingham and Sheffield are also in great demand in these markets. Credit and confidence revive and the towns of Manchester, Nottingham, etc., feel vast benefit from the happy change that has taken place."

But there was another and not such a pleasant aspect of the question. It was found that, as the long series of wars dragged on, the markets of the Continental states of Europe became less and less able to purchase English goods. This was not due to any lack of desire for them, but rather to inability to pay, owing to the financial exhaustion caused by warfare. Tooke, the historian of prices, remarks: "The shippers found to their cost, when it was too late, that the effective demand on the Continent for colonial produce and British manufactures had been greatly overrated; for whatever might be the desire of foreign consumers to possess articles so long out of their reach, they were limited in the means of purchase, and accordingly the bulk of the commodities exported brought in very inadequate returns." There was also another cause, and [illegible] was the fall in prices which accompanied the return of peace. Although prices cannot permanently govern trade, but on the contrary trade governs prices in the long run, yet of course fluctuations in prices, when proceeding from other external causes, do have marked effects.

Thus, from 1814 to 1816, or indeed to 1817, "there was," says the eminent Tooke, "a very considerable depression in the prices of nearly all productions and in the value of all fixed property entailing a consequence of losses and failures among the agricultural and commercial, the manufacturing, mining, shipping and building interests, which marked that period as one of the most extensive suffering and distress. Of that great and memorable fall of prices, the principal part, beyond that which was the effect of the seasons, and a recoil from the extravagant speculations in exportable commodities, is clearly attributable to the transition from war to peace; not from war as having caused extra demand, but as having obstructed supply and increased the cost of production." The number of bankruptcies shows how great was the depression in trade which followed the Peace of 1815: from 1612 in 1814 in Great Britain, they rose to 2284 in 1815 and 2731 in 1816, while the value of exports and imports also fell considerably.

CHAPTER XVI.

THE FINANCIAL EFFECT OF THE WAR PERIOD.

THE state of France was far worse than that of England. Indeed, the season of 1816–17 in that country was almost a period of actual famine, and large purchases of wheat were made in England on behalf of the French Government. Both countries had suffered from bad harvests immediately after the war, then the sufferings of the French were, from various additional causes, greater than those of the other nation. But it is a noticeable fact that over a large part of the Continent of Europe, there was considerable depression in trade and industry after peace had been made, instead of the activity and expansion which, at first sight, one would have supposed would follow the cessation of hostility. The main cause of this, namely, financial exhaustion, has already been alluded to, but another very important cause was the extremely unfavourable character of the seasons of 1816 and 1817 for all kinds of produce derived from the soil. Thus in France not only the grain crops but also the vintage, that most important feature of French agricultural life, was unfavourably affected. In Italy again the production of oil was for the same reason much diminished, and so too was that of silk, owing to the action of the weather both upon the silkworms and their food. In the same way in other countries the production of flax and hops, of wool and tallow, and other articles more or less derived from agricultural industry, was very adversely affected; so that the nations of Europe were less inclined to be thankful for the conclusion of peace than otherwise they might have been. But, of course, all the causes that have been mentioned above were, after all, only temporary; and though there were certain economic reasons for a gradual decline of prices which persisted for several years, yet as time went on and trade resumed its normal course, the benefits of peace began to be more fully realised.

We must, however, before passing from this subject devote some short space to the financial effects of the Continental war upon England. We have already seen that, upon trade and industry, its effects were not so bad as they might have been, and that England was by no means so exhausted as others who participated in that great struggle. But the strain upon English finances was terrible, and it still seems marvellous that the nation endured it as well as it did. The main reason for British financial endurance in this case was the fact that the changes produced by the Industrial Revolution, referred to in a previous chapter, had come in time to produce more wealth than the country had possessed before, while that wealth was also increased by the development of foreign commerce. None but a rich State could have borne the financial strain of the years of war in this manner; and therefore it is not altogether untrue to say that the manufacturing, mining and industrial population of England contributed their fair share to the victory which was signalised by the battle of Waterloo.

Some facts and figures about the finances of the war period may here be not uninteresting. It has been calculated that the war cost from first to last no less than eight hundred and thirty million pounds sterling; and it is certain that more than six hundred million pounds were added to the National Debt. In the last year of the war, the revenue was only seventy-two million pounds as compared with an annual expenditure of ninety-two million, thus showing a deficit of twenty million sterling. William Pitt, as Prime Minister in the first period of the war, was compelled to try all manner of expedients to raise the money necessary for the continuance of hostilities. The duties on almost every article that could possibly be taxed were increased, and fresh taxes devised. Spirits, plate, bricks, stones, glass, hats, horses and dogs were among the items in the taxation lists, in addition to the more usual items of tea, coffee, fruits and sugar.

These were followed by a heavy income tax of ten per cent on all incomes of £200 and over. At the same time loans were raised by the Government on terms which have since proved very onerous for succeeding generations; for the terms of the lenders were such that practically little more than 65 per cent was actually received out of every £100 nominally subscribed. It is, of course, easy to criticise now that the strain and fear of war have passed away, but in the desperate circumstances of the case, it is difficult to see what else could have been done. Pitt's finance, for instance, has been very severely commented upon, because his taxes were nearly all levied upon articles of trade and manufacture and common consumption; but if the critics of a later day had been confronted with the desperate circumstances that England's statesmen had to face at the beginning of the nineteenth century, it is hardly probable that they would have shown themselves much wiser.

Some idea of the amount of money required for carrying on the war during this period may be gained from the fact that between 1793 and 1801 there were eighteen different loans raised, making up a nominal capital of three hundred and fourteen million sterling which was added to the National Debt. Yet, such were the conditions of the loan and the difficulty of raising money, that only some two hundred and two million were actually received in cash out of this nominal total. Then again England helped other countries against Napoleon by granting them large subsidies, as much as fifty-seven million pounds in all. Most of these subsidies went to Prussia and Austria, and, as an instance, we may mention that no less than five millions in 1796 alone were sent to German states.

It is not surprising that all these financial requirements caused a severe strain upon the credit of the country, but it is remarkable how well England came through it. The severity of the strain may be judged from the fact that quite early in the war period, the Bank of England was compelled to suspend cash payments; that is, it was directed by the Government (26th February, 1797) not to give cash in exchange for its own notes. People who, at the end of the nineteenth century, regard a Bank of England note as equivalent to its full-face value in gold, and who would be seized with a panic if they did not immediately receive five golden sovereigns for a five-pound note, can hardly now realise the fact that for the first twenty years of this same century Bank of England notes could not be turned into cash. Fortunately, however, the value of these inconvertible notes did not undergo any great change. "The actual arrival of an event," remarks Mr. Macpherson in his *Annals of Commerce,* "which, by all persons who had ever contemplated a probability of its happening, had been dreaded as a death-blow to the commercial prosperity of the country, produced considerable alarm; but it was infinitely short of what might have been expected."

In fact, as soon as this bold step was finally determined, "the most spirited and energetic measures were taken to sustain public credit under so great a shock." The Lord Mayor of London promptly called a meeting of the principal merchants and financiers of the City at the Mansion House, and the meeting at once resolved that they would readily receive the inconvertible Bank notes as payments for all money due to them, and would use their utmost influence to cause others to do the same. No less than three thousand merchants and others signed this loyal and public-spirited resolution. "And in a few days all transactions of every kind went on as if nothing had happened." This simple sentence shows how great and how stable the credit of the country must have been at that time, and how loyally the mercantile community supported the action of the Government and of the Bank. What is even more surprising, perhaps, is that this arrangement went on for over twenty years, for it was not till the year 1819 that cash payments for notes began again to be resumed.

CHAPTER XVII.

COMMERCIAL POLICY IN THE EARLIER PART OF THE CENTURY: FRANCE.

WE turn now from a consideration of the actual effects of the Napoleonic wars upon commerce at the time to the more far-reaching effects which this warfare has had upon the commercial policy of various nations down to the present day. It cannot be too clearly understood that the results of that protracted war lasted, in many directions, far longer than is often recognised. The modern protective system, in fact, may be said to have its origin in the political and economic situation of the world at the beginning of the present century. It has been pointed out by a very acute economist of the present day (Professor C. F. Bastable) that protectionism naturally arises in a period of warfare and is likely to be continued when that period is passed. A protracted war, in fact, is in itself a kind of protection for home industries; because it naturally makes the introduction of foreign commodities more difficult. Thus under cover of the natural protection thus afforded, various industries are often established which when peace is once more made become exposed to foreign competition. The importance of these interests causes legislators to make up for the advantages that have been lost by the return of peace by placing high duties on the particular products whose importation was restrained during war; and when once this has been done it becomes exceedingly difficult to go back again to the *status quo ante bellum.* This may be noted both in the French and American tariffs, and the need of a revenue and the demands of particular interests thus coincide with the sentiments aroused by the existence of hostilities.

"The keynote of protectionism," remarks the same writer, "is the appeal to *national* interest. Whatever be the special doctrines that its advocates attach to their main idea, this is always found in a claim of patriotism from an economic point of view. So far, the most ardent free trader might agree, but protectionism adds to the idea of national interest the further belief that there is an opposition between the interest of the nation and that of other nations."

This is especially the case during a period of war, but it is also based on the erroneous assumption that, of the two parties to an act of trade, one must lose and the other must gain; or in other words one man's profit is another's loss. But this is by no means necessarily the case in any bargain. When a bargain is made, or any act of trade is accomplished, there is (if the bargain and the trade be a fair one) a gain to both parties. One side gets what it wants, and the other side gives up something which it does not want, and both are therefore satisfied: and both derive some advantage from the bargain.

At the risk of digressing somewhat from actual history into economic theory, we may venture in a few lines to take an actual instance. France, we note, produces wine, and Russia furs. France has more wine than she wants, and Russia more furs. If each country makes an exchange, both may get a profit on the transaction, and neither have a loss.

In the ultimate analysis, all international trade is merely an exchange, and if wine is exchanged for furs, both France and Russia obtain what they happen to require and get rid of a commodity of which they have a superfluity. There is a benefit to both, and the gain of the one is no loss to the other, for each gets what it requires and therefore derives advantage. But in times of war this fact of exchange, at no time very clearly perceived by the individual trader, is quite lost sight of and often also becomes altered by the circumstances of the case. It becomes an object, not so much to benefit your own trade as to damage your neighbour's, and the most rigorous protection seems the best means of doing so. We have seen this view in operation in the case of Napoleon's Berlin and Milan decrees. The system which he then inaugurated has hardly yet lost its effects, for it imposed protection upon the Continent of Europe in its most decided phase.

The truth of this statement may be proved by a consideration of tariffs before and after the Continental Wars. There was, as we saw in a previous chapter, a disposition on the part of both French and English statesmen to modify the almost prohibitive system of protection which existed before the treaty of 1786, and during the short time that treaty was in operation the trade between France and England was greatly increased. But the French Revolution, and the wars which followed it, prevented any further development upon these lines. The circumstances of warfare made it necessary to impose fresh burdens of taxation rather than to lighten those already existing, and as high duties on foreign goods seemed one of the readiest and easiest resources of the much harassed financiers of the day, these duties were accordingly imposed. At the same time, native industries, which were feeling the burdens of home taxation, naturally petitioned for protection against foreign goods, so that statesmen had a double reason for resorting to protective measures.

It is, of course, also a commonplace to remark that all warfare tends to interfere with international commercial intercourse, so that every country finds itself more than ever inclined to attempt the policy of isolation and self-dependence which we saw Napoleon I attempting to inaugurate in France. These features of commercial policy are, in fact, common to all wars, but they became much more pronounced during the wars of the period 1792 to 1815, because warfare was so long protracted.

Hence when peace was at length restored in the year 1815 it was found that the aspect of international commerce in Europe had been to some extent changed. In some cases commerce had been greatly impeded and almost destroyed; in others it had been driven into other channels. There were many industries which had grown up, or had at least been very largely aided, by the temporary advantages which the "continental system" of Napoleon I had given them, and now they naturally did not wish to be again exposed to foreign competition. In most cases foreign meant British competition. At the same time British manufacturers were only too eager to find an outlet for the stocks of goods which they had accumulated during the war, or which they had been partially prevented from exporting; while continental manufacturers became alarmed at the vision of a continued influx of British manufactures. Hence the restoration of peace only heralded a period of more severe protection instead of throwing open the gates of trade and making commerce between the various nations free and unimpeded.

If we take France, for instance, the country which, though it was England's greatest enemy, yet from its geographical position is not only its nearest neighbour but also its natural customer, we find that at the close of the war the duties then imposed, which were fixed in 1806, favoured the woollen and cotton industries, while in other respects they followed the tariff of the year 1791, which was on the whole very liberal. But the restored Royalist party showed a strongly protective spirit, and the Corn Laws of 1819 and 1821, as well as the tariff issued in the year 1822, were framed upon a much more stringent basis. At the same time, as we have already noted, there prevailed considerable depression in commercial and industrial circles; and the most popular remedy for this seemed to be an increase of duties upon foreign imports. For this reason foreign sugar, wool, flax, cattle and many smaller items, had heavier duties imposed on them, while in 1826 these were rendered still more severe; the duty on wool being raised to thirty per cent, and that on steel to one hundred per cent. The Orleanist government succeeded in getting a moderate reduction of some of the most oppressive duties, but the main effect of the tariff remained unaltered, and some goods were practically prohibited; nor was an attempt made to alter this rigid system till the days of the Second Empire. Of the tariff reforms then made we shall speak later.

CHAPTER XVIII.

COMMERCIAL POLICY: GERMANY AND RUSSIA.

IF we look at the collection of small states and kingdoms, which for the whole of the first half of the nineteenth century made up what is now called the German Empire, we find that political circumstances had something to do with the changes in commercial policy. We also find in Germany a good example of what was stated above, namely, of the growth of manufacturing industries protected by war. This was especially the case in Saxony and Central Germany. They did not feel the effects of the continental blockade so much as those states which were nearer the sea, and their trade had mainly been conducted with what might be termed the Central European markets. The result of the blockade was therefore to throw these markets open to them even more than before.

The "Confederation of the Rhine," under Napoleon's protection, that is, the confederation of the states bordering upon that river, was able to do a great deal of trade with France, and this trade was also stimulated by the requirements of food and clothing for Napoleon's numerous armies. It was at this period therefore that the cloth manufacturers of Saxony found themselves in a very flourishing condition. Saxony wool had always had a good reputation, and it had been improved by a cross between the Saxony sheep and the Spanish merino; so that it is not surprising that the woollen manufactures of Saxony were just at this time in great demand. The cotton manufactures also flourished to some extent as long as it was possible to obtain raw cotton. But when the downfall of Napoleon took place, and the continental blockade which he had established was broken down, the manufacturers of Central Germany found themselves at once exposed to the British competition. This was especially the case in the cotton trade, for the woollen manufactures were of sufficient excellence to command still a ready market; but the hardware and metal trades found it very difficult to compete with English and Belgian goods.

The immediate result of peace therefore was to throw the numerous German states into the arms of protection. With a view to protecting its own trade and industries from foreign competition each little state framed more or less its own customs regulations, with the result that the greatest hindrance to trade naturally prevailed. Some idea of the complexity of the commercial situation may be gained from the fact that the publisher of an edition of the works of the famous German author, Goethe, had to make arrangements with no less than thirty-eight different governments, in order to prevent the edition from being pirated, and secure publishing rights in the different states. It soon became obvious that it was not in the interests of any commercial community that this complexity of tariffs should continue. Hence many of the states determined to form themselves into a *Zollverein* or Customs Union, that is to say, a federation of states all having the same arrangements for tariffs and customs duties.

The union commenced at first with the smaller combinations of Bavaria and Wurtemberg (1828), Prussia and Hesse Darmstadt (1832), and of Hanover, Brunswick and Oldenburg (1834). "By the year 1833 the central portion comprised a population of over twenty-five million, and the most important states of the Germanic Confederation," with the exception of Austria; while the operation of the regulations thus made dated from the first day of January, 1834. The original scale of duties was based upon the Prussian tariff of the year 1818, which was certainly a moderate one, making import duties the chief source of the customs revenue while export duties were reduced. By this tariff protection to manufactures was limited to ten per cent, besides a uniform duty of eighteen pence per hundredweight on all goods. This naturally told most heavily on cheap and bulky articles. Within the Customs Union, however, the feeling of protection soon became noticeable.

The adoption of a "national" policy was advocated by a certain section, but the necessity for unanimity among the states in order to carry out any change tended to preserve the old duties. In 1842 certain alterations were made in the direction of higher protection, the duties on cotton yarn being raised, while pig iron, which had previously been free, was now subjected to a duty of twenty shillings per ton. These alterations were made to a certain extent in retaliation against the English Corn Laws, for Germany exported a good deal of corn to England, and resented the protectionist spirit which led the framers of English legislation to exclude foreign corn as far as possible from the list of imports. Later on, however, certain changes were again made in the direction of greater freedom to trade.

The most remarkable instance, however, of a return to protective measures after the Peace of 1815 is seen in the case of Russia. Shortly before the beginning of the nineteenth century, and just at the time when the period of Continental war was beginning, more than half the entire foreign trade of Russia was with Great Britain. Of eight hundred foreign vessels which arrived in St. Petersburg in 1793 more than five hundred were British, and about the same number departed from the port in that year. In that very year, however, the Empress Catherine issued an edict absolutely forbidding the importation of many of the chief articles of British manufacture, including all striped and woollen goods; and in the same way an attempt was made to cut off commercial communications with France. The object of these sudden prohibitory measures seems to have been to protect the youthful manufactures introduced originally by Peter the Great, but, in spite of this protection, trade with England steadily increased, because it was eminently a natural trade, in the exchange of Russian products such as grain, timber and cordage for British manufactured articles. Fortunately in the year 1797 a new and more favourable commercial treaty was concluded between the two countries.

But after the Peace of Tilsit in 1807, Russia was compelled like the rest of Europe to bow down before Napoleon's commercial decrees as formulated from Milan and Berlin, and to prohibit the introduction of British goods. The trade between Russia and England, however, was so valuable that Russia could not afford to lose it altogether, and Russian authorities consequently became very lax in enforcing the "continental system" which Napoleon wished to establish. This was one of the main causes of Napoleon's famous and disastrous invasion of Russia in 1812, and after that invasion trade with England again became very flourishing. It was evident that Russia could supply many of the requirements of English commerce, especially in grain and timber, and for this reason we see that Odessa and the other Russian ports on the Black Sea grew rapidly in importance and in wealth.

The bad harvests in England and in Europe also, to which allusion has already been made, during the years 1816 and 1817, were especially favourable to the Russian export trade in grain; but very soon after this we find the Russians growing uneasy about their own home-manufactures, and in the face of what we have previously described as a most natural and flourishing intercourse of trade, they determined to take summary measures to protect these somewhat artificial industries. This is the explanation of the ukase or edict issued by the Czar in the year 1820, by which heavy duties were imposed upon almost every foreign product admitted into Russia. "This," says the author of the *Growth and Vicissitudes of Commerce*, "stopped importation, and rewarded political intervention with bad and dear goods of native make in lieu of cheap and good ones from abroad."

The financial and commercial policy of Russia at this period was very largely influenced by the famous minister Count George Cancrin (born 1774, died 1845), who was minister of finance for over twenty years, from 1823 to 1844, and possessed very great favour with the Czar Alexander. By his financial management he certainly increased the revenue of the country and improved its credit, for he practically restored the Empire from what was very nearly bankruptcy to a fair financial position. But his system, though successful from the Government point of view, was most burdensome to the community at large, and is now regarded by the Russians as a most unfortunate period in their modern history. His ideas were shown in the most rigid protection against all foreign articles and the promotion of state-aided manufactures at home, and he opposed the extension of railways and of banks. The result was that Russia became for a very large portion of the first half of the nineteenth century notorious for the extremes to which it carried the protectionist system.

But, generally speaking, the whole of Europe reverted to protective principles for the first half of the nineteenth century, and it was not till about 1850 that other views as to greater freedom of trade began to prevail. The two chief exceptions among European states were Prussia and Switzerland, and both of them profited by their liberality of spirit in commercial matters. We shall see later how, about the middle of the century, the example of England in the matter of free trade had, for a time, some effect upon the rest of Europe; but at present we need only note how long the effects of the war-period lasted and how important were its results in modifying the views of statesmen and merchants alike in regard to commercial policy.

It is useless to denounce Protection as merely a kind of perversity on the part of those who employ it; for whatever may be the views of an economist as to the folly or wisdom of such a course, this policy has generally been due to historic causes in the past, or to the fears aroused as to the present and future. It also can hardly be denied that some statesmen are quite ready to acknowledge that Protection is not good for commerce and industry, but they hold that the losses in this direction are counterbalanced by gains in others, especially in the matter of national spirit and of national self-dependence. In this question, however, it is not the business of an historian to enter. It will be sufficient to chronicle the course of commercial policy and progress throughout the century.

CHAPTER XIX.

COMMERCIAL POLICY OF THE UNITED STATES.

But we cannot leave the earlier part of the nineteenth century without some reference to the developments of commerce and commercial policy which were occurring in the American Continent during the time that Europe was either plunged in war or recovering slowly from the effects thereof. It is at first sight somewhat surprising to an economist to find that the United States adopted a policy which resembled so closely the protectionism of older countries which had been suffering from the effects of war, and were each jealous of their neighbour. It would appear that the natural tendency of the American states would have been rather toward free trade, especially as in earlier days they had suffered very considerably from the restrictions laid upon their commerce when they were colonies belonging to another power. The old colonial system, with its various regulations and hindrances, would, it might have been imagined, have served as a warning to avoid rather than as an example to imitate. But such was not the case. There were other causes operating that produced an effect in the direction rather of more protection than of greater freedom.

Among such causes may be reckoned a feeling of hostility toward England, who, the Americans thought, had treated them badly; and there was also the belief that some of the youthful colonial industries, which had been in the past severely hampered by the restrictions laid upon them by the British Government, might now be more easily developed if they were protected from British competition. There was also a third cause, and that was the urgent financial needs of the new Republican Government to raise a revenue without unduly burdening its citizens. Of course, all protective duties must ultimately fall on the shoulders of the people who impose them, but as their incidence is often disguised, it frequently remains unnoticed. The earlier tariffs of the United States were, however, quite moderate.

It is rather to the special circumstances of the first few years of the century that we must turn for an explanation of American policy. "At first," remarked Professor Bastable in his valuable monograph on the *Commerce of Nations,* "the European wars opened up a splendid market for American producers of food and raw materials, of which they largely availed themselves, as the increase in exports shows. Imports of English manufactures formed the readiest and most satisfactory mode of payment. As neutrals, the United States also obtained a considerable share of the carrying trade, in spite of the English Navigation Laws. The Continental system of Napoleon and the English Orders in Council stopped this rapid development. Both the imports and the exports, as well as the carrying trade, fell off after 1808. Foreign markets for the flour, timber and other materials in which a new country had special advantages, were closed at first by illegal restrictions, and from 1812 by the hostile British fleet. The import of foreign manufactures suffered similarly, with the natural result that native industries sprang up, producing goods to meet the unsupplied demand. Here, as so often elsewhere, we see that war is in reality the extreme limit of protection so far as the belligerent countries are concerned."

Now, when peace was concluded between the United States and England in the year 1814, and was followed by the general peace over all Europe after the battle of Waterloo in 1815, the same thing happened in the American states as occurred in the various countries of Europe. The new manufacturing industries, which had sprung up during the war to meet the demand for goods, the supply of which had been temporarily interrupted, found themselves once more exposed to foreign (mainly British) competition, and they were also in an inferior position as compared with the other American industries that were concerned in the production of foodstuffs and raw materials.

Therefore, in 1816, we find the United States passing a tariff to impose duties again on imported goods. "Cotton and woollen manufactures were charged twenty-five per cent for three years, and after that time twenty per cent; iron about twenty per cent; and other manufactures somewhat less." In 1815 a Reciprocity treaty as to shipping was concluded with England. During 1818–19 American trade passed through a time of depression, ending with a crisis in 1819. "The protectionist sentiment was strengthened by this event, and after an abortive attempt at legislation in 1820, a higher tariff was passed in 1824. The duties on cotton and woollen goods were now raised to thirty-three and a third per cent; on raw wool from fifteen to thirty per cent; corn, lead and hemp were also charged at higher rates, the average rate being thirty-seven per cent.

"Not satisfied with this victory, the advocates of protection pressed for further increase of duties, and by skilfully utilising the contending political parties they succeeded in passing the tariff of 1828, by which the duties on raw materials—wool, flax, hemp and iron—were raised, speaking generally, to about fifty per cent, with an additional specific duty in the case of wool. Woollen goods were charged forty per cent, to increase to fifty per cent, with minimum rates for the lower qualities. The duty on molasses, the basis of the rum manufacture, was doubled. The average percentage of duties rose to forty-one per cent."

This extension of the protective system, however, by no means met with the unanimous approval of all the states. The Southern states were extremely opposed to it, even going so far as to declare that it was a violation of the American Constitution. The State of South Carolina proposed to "nullify" the tariff, and also threatened to secede from the Union, and for some time there was considerable bitterness of feeling and a good deal of wild talk. A few years later, however, in 1832, a new Tariff Act was passed through Congress by which various reductions were made in duties obnoxious to certain interests, though the general spirit of the tariff remained clearly protective. Thus the tax on pig-iron was lowered from twelve dollars and a half to ten dollars per ton; the duties on silk were lowered and those on tea and coffee abolished. But even with these reductions the average tariff on articles subject to duty remained as high as thirty-four per cent.

The Southern states who wished to be allowed to export their cotton and other raw material freely and to receive in exchange foreign manufactured goods as cheaply as possible were by no means satisfied, and continued their agitation in the direction of greater freedom of trade, so that, in the next year, Congress passed what is known as the "Compromise" tariff, under the auspices of Mr. Clay. This tariff bill provided that duties should be gradually reduced during the next nine years, so that by the year 1842 the general average of duty should not be more than twenty per cent.

The provisions were made so that this reduction should proceed slowly at first, but more rapidly towards the close of the period; the motive being that the manufacturing industries of the States should have time to accommodate themselves to the new arrangements before being fully exposed to the force of foreign competition. By this process the tariff would have gradually reverted to the more moderate conditions which prevailed in the tariff of 1816. Unfortunately the years 1837 to 1839 were marked by considerable commercial depression and were a period of crisis both in England and the United States, while at the same time there was a considerable fall in prices. This was one of the most obvious causes of the renewal of the cry for more protection just as the time was approaching when duties were to have come down to their lowest point. The manufacturing interests of the Northern states persisted in their agitation for more protection, instead of less, and the disturbed conditions of industry together with the widespread losses which many of those interested in commerce were suffering gave some apparent support to their arguments.

Thus when the year 1842 actually came round, it saw a re-imposition rather than a lowering of duties, so that the tariff reverted to that of ten years previously instead of being placed upon a permanently lower basis. At any rate the average rate of duty now worked out at thirty per cent, which was ten per cent higher than had been promised. The Southern states were again extremely irritated at this condition of affairs, and complained that they had decidedly the worst of the bargain. They were compelled, they said, to sell their exports cheaply, but to buy the imports they most needed (chiefly manufactured goods) in the dearest market, and consequently were at a loss in disposing of their produce. This was undoubtedly true; but it was also true that if the South lost by this process the North gained, for they could buy the raw material for their manufactures within the Union free of duty; while they sold the goods which they manufactured at a high price, being protected from foreign competition by the heavy tariff.

This may be seen from the fact that foreign woollen goods were charged no less than forty per cent, rolled iron paid twenty-five dollars per ton, and other manufactured articles in similar proportion. It is, however, significant of the changes in American politics that even the tariff of 1842 did not remain long in force. Four years later the act prepared by Mr. Secretary Walker altered the scale of duties very considerably. Duties certainly remained in some cases very high, but all dutiable articles were now (1846) grouped into eight schedules, and a separate rate was fixed for each schedule, being as high as one hundred per cent in one schedule, and as low as five per cent in another. Thus iron goods and metal manufactures, together with woollen goods, were placed in the third schedule with a tariff of thirty per cent, and cotton goods came into the fourth schedule at a duty of twenty-five per cent. The average rate worked out about twenty-five per cent, which was certainly lower than the proposals of 1842. From this time till the outbreak of the Civil War in 1861 the tendency was rather to lower duties than to raise them.

Still the general course of the history of American tariffs, with their somewhat frequent variations, was decidedly on the side of protection; and this is the more remarkable inasmuch as the circumstances of the country would have seemed rather to point to the exchange of raw material, such as foodstuffs, wool, cotton and timber, for manufactured articles in as free a manner as possible. On the other hand, it must be remembered that the American Union has always comprised a vast continent, consisting of many states, some as large as European kingdoms, so that there was practically free trade within its borders, which means that trade was free within very wide limits. This will account for much of a policy which, to the British free trader, might seem almost unreasonable.

CHAPTER XX.

PROGRESS OF AMERICAN COMMERCE IN THE EARLY PART OF THE CENTURY.

We might take this opportunity of adding a few further details about American commerce to those which have already been given in a previous chapter on the condition of trade at the beginning of the century. Some idea of the growth of the trade of the Union may be derived from a statement of the rapidity with which the chief sea-ports developed. New York is a striking example of this. In the year 1790 the population of that city was only some thirty-three thousand. Ten years later the population was nearly doubled, being then sixty thousand; ten years later, and it had again doubled itself, being in the year 1820 quite one hundred and twenty thousand. In 1830, the number was over two hundred thousand (213,000 exactly), and in 1840 it had risen to 312,000.

It is curious to notice, however, that the city was considered, at least by Europeans, as very insanitary, and as late as 1844 the compiler of McCulloch's *Dictionary of Commerce* speaks thus: "The pools which were formerly abundant in the city and its vicinity have been completely filled up: a measure that has done much to improve the health of the population. In respect of cleanliness, however, New York is not to be compared with an English town. There is hardly such a thing as a sink or common sewer in the whole city; the night soil is collected in pits, of which there is one in every house, and being conveyed to the nearest quay is thrown into the water; but as these quays are made of timber with many projections, a great deal of filth is retained about them, producing in hot weather an abominable stench. The yellow fever, by which New York is sometimes visited, uniformly breaks out in the lower and dirtiest part of the town, and seldom indeed extends to the new and more elevated streets. It is now (1843) much less prevalent than formerly, and the general opinion seems to be that if stones were substituted for timber in the quays, sewers constructed, and proper regulations enforced as to cleanliness, the scourge would entirely disappear."

The commerce, however, of New York rapidly became most extensive, and about the year 1840 the value of the merchandise annually loaded and unloaded in the port was estimated at from one hundred to one hundred and twenty million dollars, and nearly two-thirds of the total imports of the States passed through it; though only between one-third and one-quarter of the exports went through it. A list of the exports and imports will show the chief items of commerce, though we are already familiar with its general outlines. The exports included wheat, flour, corn, rice and cotton; beef, pork and dried fish; furs, tobacco, timber and coarse manufactured goods. The imports were mainly cotton, woollen and linen manufactured goods, hardware and cutlery, and other metal manufactures, all the preceding coming mainly from England, while silk goods and wines came from France and Spain; sugar and coffee from Brazil and the West Indies;

and tea, spices, dyewoods and other similar products came from various parts of the globe. Even before the half-century was complete, the tonnage of the shipping using the port of New York was greater than that of any other city in the world except London; but while most of the import trade of the States came through New York, it should be noted that many of the exports passed through New Orleans.

This latter port was then, of course, as it has always been, the great centre and outlet for the commerce of the vast basins of the Mississippi and Missouri rivers. Its superiority over New York as the chief port for distributing the tropical exports of the American States may be seen from the fact that in 1841 the value of native American produce sent through New Orleans was twenty-six million dollars, as compared with New York's nineteen million; at the same time the value of the New Orleans imports was only ten million dollars as against New York's seventy-five million. The figures of trade of the two ports at the end of the century are both very different; but as an indication of the course of American trade in the earlier portion of the century they are useful.

Much of the rapid growth of New Orleans in these earlier days may be attributed to the extension of steam navigation on the Mississippi. The first steamer on that river was launched in the year 1811, and during the next twenty years (up to 1830) more than three hundred steam vessels were built for use both there and on the Missouri and Ohio rivers.

In the list of exports it is only natural to see that cotton occupied then a very prominent position, the number of bales sent away having risen from four hundred and ninety thousand in the season 1835–36 to eight hundred thousand in 1840–41. Next to it in value came tobacco, the quantity of which exported was some forty thousand hogsheads as compared with fifty-four thousand in the same two seasons. Among other items we notice also apples, beans, butter, beef, corn, flour, buffalo robes and furs, hides, a very large amount of bacon, hams and pork, as well as lard and tallow. In fact corn and cotton, pork and tobacco may be regarded as then the typical exports.

The trade of the third large American port, namely, Boston, was more like that of New York than the southern city, but its main features were its trade with the ports of the Southern states and its fisheries. Boston formed the chief outlet for the manufactures of Massachusetts, and it exchanged these very largely for the produce of the Southern states. It was also the centre of a large coasting trade, as well as of vessels engaged in foreign trade and in fishing. The course of Boston trade in the year 1840 showed imports from foreign countries to the amount of twenty million dollars, while the exports of native produce were only seven million dollars, but on the other hand it exported a large amount of its own and other manufactures to the Southern states of the Union.

If we take a general survey of the commerce of the whole of the States for the first forty years of the nineteenth century, we find that though the exports rose from about seventy million dollars in the year 1800 to one hundred and thirty-two million in 1840, they were subject to striking fluctuations, due to a certain extent to alterations in the tariff. The value of the imports was not properly returned till the year 1820, but from 1821 to 1840 we see an increase from sixty million dollars to one hundred and seven million, though here again the figures fluctuate in a rather curious manner, for while the imports of the year 1840 were only one hundred and seven million as just stated, those of the previous year show no less than one hundred and sixty-nine million dollars.

The following short table will show the progress of American trade during the first part of the century:

Year.	* Exports.	* Imports.
1800	70.9	Not given.
1810	66.75	" "
1815	52.5	" "
1820	69.6	62.5
1825	99.5	96.3
1830	73.8	70.8
1835	121.6	149.8
1840	132.08	107.1

A rather curious feature of American commerce at this period was the arrangement for banking. American banks seem to have aroused the wrath of economists in England to a most alarming degree, judging from the tone of the writer of the following utterances upon the subject, a writer who was well known as an economist of some standing in England. He remarks that the system of banking in the United States had attracted considerable attention in England owing to the fact that a certain

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* Figures in millions of dollars.

amount of English capital had been invested therein, and also from the principles upon which it was conducted. He regards the system as a vicious one, and the cause of many of the financial and commercial difficulties which so frequently occurred in the States. The main feature of it was that all the banks were joint stock institutions, but instead of the partners being liable as in England for the whole amount of the debts of the bank, they were usually only liable for the amount of their shares, or some fixed multiple thereof.

"It is needless," he says, "to dwell upon the temptations to fraud held out by this system which has not a single countervailing advantage to recommend it. Considering the peculiarly favourable circumstances under which the United States are placed, the boundless extent of their fertile and unoccupied lands, the lightness of their public burdens, and the intelligence, enterprise and economy of the people, it might be presumed that distress and bankruptcy would be all but unknown in the Union, and that it would be exempted from those revulsions which so seriously affect less favourably situated communities. But the very reverse of this is the case: discredit and bankruptcy are incomparably more prevalent in America than in any European country. The worthlessness of the plan on which the banks are founded was evinced by the fact that between 1811 and May, 1830, no fewer than one hundred and ninety-five banks became altogether bankrupt, many of them paying only an insignificant dividend; and this exclusive of a much greater number, which stopped for a while, but afterward resumed payment."

Without endorsing the severe criticisms of this writer, it may be recorded that the system thus pursued certainly led to a considerable over-issue of paper money, especially in the years 1835 and 1836, with the result that a most severe financial crisis ensued in May, 1837, during which every bank in the States was compelled to suspend payments in cash. The next year many of them resumed payment, but again in 1839 a large number of them, including the Bank of the United States, had to stop, while many were found to be quite insolvent. According to a report issued by the Secretary of the Treasury of the United States no less than one hundred and fifty banks with a capital of forty-five million dollars became insolvent between 1830 and 1840; and between the date of that Report in February, 1841, and September 1st, 1842, no less than one hundred and sixty-one other banks failed with a capital of one hundred and thirty-two million dollars.

To an English mind it seems unfortunate that the United States did not possess an institution of the character and stability of the Bank of England. It is true that there was a United States Bank, but its history was somewhat unfortunate. It was incorporated by Congress in 1816 with a charter for twenty years, and held a paid-up capital of thirty-five million dollars, or rather more than seven million pounds English. But when the time came for the renewal of the charter, it was very violently opposed in many quarters, and even by the then President, General Jackson. The Bank did not enjoy the support of the Government, for in the year 1833 the Government deposits had been withdrawn from it, but still its credit remained good, and in 1836 it succeeded in obtaining a charter of incorporation from the State of Pennsylvania, yet soon afterwards became insolvent in the commercial crisis to which we have just alluded. It was not till after the Civil War that the banking system of the American Union was placed upon a firm basis by the institution of National Banks.

We may conclude our account of the commerce and commercial policy of the United States in this period by some reference to the more important features of their development. The European depression and crisis of the year 1825 produced an indirect advantage to the States because, since foreign trade fell off for a time, more attention was given to domestic industry. It is to this period that America owes the extension of its fine system of canals, for which it soon became distinguished among civilised nations. One of the greatest of these undertakings was the Erie Canal connecting the Hudson River with Lake Erie; an immense piece of work, some three hundred and sixty miles in length, with a rise and fall along its line of six hundred and ninety-two feet. As originally designed, it was not large enough for the traffic which soon developed along its course, and therefore, in 1835, steps were taken to provide for its enlargement. The first cost of the canal was over nine million dollars, but of course the enlargement cost much more. Another great undertaking was the Ohio Canal, connecting the Ohio River with Lake Erie; and even at a comparatively early period of the century, the various parts of the great continental Union were brought into contact with one another by this means.

The Americans were also very quick to take advantage of the use of steam for propelling vessels; indeed the first steamboat really used for practical purposes was that which Fulton built and placed on the Hudson River in 1807. It only had eighteen horse power, and took thirty-three hours to do the run from Albany to New York, but it was the beginning of splendid developments in later years. Other boats were soon put on, notably the *Car of Neptune* in 1808 and the *Paragon* in 1811, so that in the year 1812, when vessels propelled by steam had only just begun running on the River Clyde in Scotland, there were already several steamboats in regular work on the American rivers.

In the year 1836 it was estimated that there were eight hundred steamboats in the United States as against six hundred in England. On the Ohio River alone in 1837 over four hundred different steamers passed through the Louisville and Portland Canal, besides others which did not pass and were therefore not included, and there were about the same time some seventy on the North-western Lakes. But people were slower in using steam vessels for ocean voyages, and although the successful voyage of the *Savannah* from the American continent to Liverpool took place in 1819, it was many years before sailing vessels lost their pre-eminence for ocean travel.

There is a very interesting report by the Secretary of the Treasury of the United States prepared in 1838 in obedience to a resolution of the House of Representatives (20th June, 1838) which gives numerous details as to the progress of the employment of steam both for machinery, boats and railways, from which we gather that in that year the total tonnage of steamboats in the States was one hundred and sixty thousand tons, as compared with only sixty-seven thousand in England two years previously. The tonnage of each American boat seems to have been, on an average, two hundred tons, using altogether a total of fifty-seven thousand horse power. "It is a striking fact," remarks the Report, "that the steam power employed in standing engines is equal to about two-thirds of all that used on steamboats." The average works out at about seventy horse-power to each boat, or "one horse to between two and three tons."

The largest boat in the United States in those days was the *Natchez,* of eight hundred and sixty tons and nearly three hundred horse-power, running between New York and Mississippi, while the *Illinois* and *Madison,* on Lake Erie, were the next in size, the former being seven hundred and fifty-five and the latter seven hundred tons. There appear to have been a fair number of accidents, and some of them very serious indeed.

We are told that the greatest loss of life ever known to have occurred on one steamer was in the case of the *Monmouth,* which, in 1837, had a collision on the Mississippi with another vessel and sank, carrying down with her no less than three hundred persons. There were also several cases of loss by explosions, which perhaps was not to be wondered at, considering that boilers and machinery had only recently been introduced; thus, in 1838, on the same river, a steamer named the *Oronoka* had an explosion by which one hundred and thirty lives were lost, while on the Ohio River the *Moselle* disaster cost the lives of over one hundred.

This early period indeed seems to have been fruitful in disasters, for added to the dangers of collision, shipwreck and explosions, was the greater danger of fire. Thus in 1837 again, which seems to have been a singularly unlucky year, the steamer *Ben Sherrod* took fire on the River Mississippi, and nearly one hundred and thirty people perished. But in spite of disasters and the gloomy forebodings of old-fashioned persons who could not understand the benefits of machinery and steam, the building of steam vessels went on apace. The chief centres of building were at Pittsburg, Cincinnati and Louisville in the Western area, and at New York, Philadelphia and Baltimore in the Eastern. It is noticeable that for some considerable period the fuel used for the river steamers was wood, of which, of course, there was a great abundance on the river banks, but in course of time, as coal became more widely worked, it was substituted for the other material, especially the anthracite coal which was and is specially suitable both for river traffic and for sea-going vessels owing to the small space which it occupies.

While we are on the subject of the use of steam for navigation, we may very properly refer to its use on railroads for locomotives. From the Report from which we have gleaned the foregoing particulars, we learn that in the year 1838, the whole number of locomotives propelled by steam was three hundred and fifty, and the State which possessed the largest number (namely ninety-six) was Pennsylvania. There were then nearly fifteen hundred miles of railroad, which to the authorities of that time seemed an enormous rate of progress, and no doubt it was, considering the difficulties which the constructors of these early railways had to encounter.

No locomotives were introduced till the year 1831, and it is believed that the first was run on the Newcastle line to Delaware State. The next to follow was the Baltimore and Ohio railway, in the State of Maryland, while the third was started in the State of Louisiana between Lake Portchartrain and New Orleans. We are informed that they had first been tried in America by one Oliver Evans, as early as 1804, one year earlier than in England, and it is further remarked that locomotives were "not reduced to useful practice" in England till 1811 for freight, and till 1831 "for passengers and speed." One succeeded "on a common road between London and Bath in 1829," but the writer does not say much about the more important experiments of George Stephenson and the Darlington or the Liverpool and Manchester railways.

There is, however, some further useful information about the use of steam for stationary engines, and for running machinery for the purpose of manufacture, which we may mention in this place. There seems to have been at this date about eighteen hundred and sixty steam-engines (not locomotives) in the United States, and it is again remarkable that the largest number (three hundred and eighty-three) was to be found in Pennsylvania. The State of Louisiana, however, came a good second with three hundred. The same public-spirited man whose name has been mentioned in connection with locomotives, Oliver Evans, was the person who did much to promote the use of machinery, and the first stationary engine was put up as far back as 1787 in the State of New Jersey. It was used for raising water and earth from mines.

A few years later, in 1791, another engine was placed in a cotton factory at a place called Kensington, near Philadelphia; and not long after this engines were used in the typically American industry of saw-milling. They were also employed in the iron rolling mills at Pittsburg. By the year 1838, of which we are now speaking, they were largely employed in the sugar mills of the Southern states, and also in the processes of cleaning and pressing cotton. The manufacturers of the West used them in the iron works, and in the grist and saw mills; while in the states bordering on the Atlantic seaboard they were found in all kinds of manufactures, in printing and in the public works at the navy yards and the armouries. In the last category the Government of the United States owned some seventeen engines, which were employed in emptying water out of docks, in sawing timber, and in manufacturing weapons.

We thus see that the manufacturers and the commercial community of the United States were by no means slow in following up the various inventions in this direction, in the early part of the nineteenth century; and it is extremely interesting to note the few and modest beginnings of the gigantic services of railroads and steam vessels that have since developed as the years rolled on their course; while in the domain of manufactures the growth of the employment of machinery propelled by steam has been of the most amazing description. We must now, however, turn from the commercial developments and the commercial policy of the United States to those of Great Britain; for here we shall find a most important step, whether for good or evil, was taken in regard to the regulation of trade. Few points of policy are perhaps more striking than the difference between the course of tariff legislation in England and America; though, of course, much depends in this case, as in others, upon the different circumstances of the two countries.

CHAPTER XXI.

PROGRESS OF TRADE IN ENGLAND UNDER A NEW COMMERCIAL POLICY.

Without going into technical details which would perhaps be unsuitable for a volume of this kind, it may nevertheless be remarked that the Free Trade movement, which we have now to chronicle, did not spring suddenly into existence in the early part of the nineteenth century. Had we space we might devote some time to a description of the growth of certain newer economic ideas in previous epochs, for, though it is certain that the peculiar circumstances of the manufacturing interests of England gave a special stimulus to the doctrine of Free Trade, yet the germs of it were already sown in the minds of several economists and statesmen before the nineteenth century began. Even in the seventeenth century we find writers like Roger Coke (1643–1696) advocating freedom of trade for imports and the repeal of the Navigation Acts of 1651 and of similar measures; and likewise in the eighteenth century there were several writers who advocated the reduction of the multifarious regulations and duties which then existed for our foreign trade.

But the economist with whose name the development of Free Trade theories will always be most closely associated is Adam Smith, the author of that monumental work on *The Wealth of Nations,* which for over a century has held undisputed pre-eminence among the classics of political economy. The author of this epoch-marking work was born in 1723 and died in 1790, his book being published in 1776. He enunciates in his work two great principles which form a very strong case against the system of protection; that is, if we regard protection from a purely economic point of view. The principles referred to are (1) that money is merely a medium of exchange between nations just in the same way as it is between individuals, and (2) that the theory of division of labour may be applied to the commerce and industry of whole nations just as it is applied to the different departments of any particular trade.

Now the older economic theory of what is known as "the mercantile system," though it hardly deserves the epithets "mean and malignant" which Adam Smith applied to it, yet rested on a mistaken basis in at least one point, and that was its view of money. Money was regarded as the chief form and sign of wealth, and national riches were considered to consist in quantities of gold and silver. A nation was therefore not supposed to be really prospering unless there was a greater quantity of these precious metals coming into the country than there was going out of it, and in order to secure this favourable "balance of trade" the exports of goods must, of course, be greater than the imports. In order, therefore, to attain this greatly desired result, the supporters of the mercantile system advocated the encouragement of exports by means of bounties, while attempting to prevent the free influx of imports by heavy duties.

This system, of course, involved considerable interference with and hindrance of international trade, but it is a system which has its supporters at the present day, and which, though sometimes not directly advocated, forms nevertheless the groundwork of much of the reasoning of people interested in commercial policy. It cannot, however, be too clearly understood that international commerce, as is the case of commerce between individuals, consists in the long run of exchange of goods between one nation and another, and money is only the medium whereby that exchange is facilitated. The more free this exchange of goods is made, the more rapid and easy will be the flow of trade, and the greater will be the commerce between the two nations concerned.

Furthermore, if we apply the principle of the division of labour to the commerce of countries as well as to the trade between individuals, we notice that just as individuals possess different advantages or aptitudes, either original or acquired, which make them specially fit to perform certain branches of labour, so, too, different nations possess various advantages of soil, climate, geographical position, or even national character, which enable them to become specially expert in producing, growing or manufacturing certain commodities of trade. Thus, for example, France, Germany and Italy all possess particular facilities for growing and making wine, while England has special advantages in the production of coal. It is, theoretically, the most obviously advantageous course for each nation to concentrate its energies on producing or making that commodity for which it has special facilities, rather than to devote its energies to making other goods which it can indeed produce, but only under more difficult conditions. When made, it is again obvious that it is greatly to the interests of international commerce that each nation should exchange freely those goods

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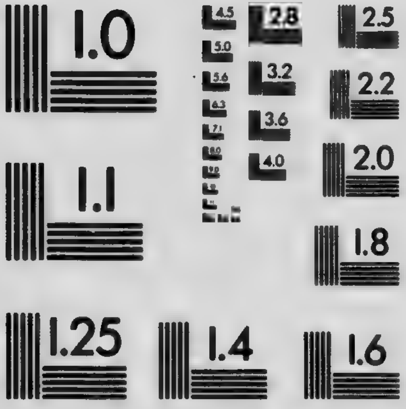

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which it does not require for those which it does require; and the fewer hindrances there are in the way of this free exchange the better it is for all parties.

This is the essence of the Free Trade position, and it was Adam Smith who formulated that position in a masterly manner. His doctrines, however, were not by any means immediately put into practice. It is true that in 1786, ten years after the publication of the *Wealth of Nations,* William Pitt took the opportunity to put some of its principles into practice when making the commercial treaty of that year with France. But owing to the exceptional conditions created by the prolonged period of war which soon followed, and to which we have already alluded in these pages, it was nearly forty years after the Eden Treaty of 1786 before another opportunity presented itself of making any very extensive change in British commercial policy. With the appointment of Mr. William Huskisson to the Presidency of the Board of Trade in the year 1823 a new era was begun, and the old system of protection received its first serious shock.

We will digress for a moment in this place in order to give a very brief outline of the career of this statesman whose name will be frequently mentioned in later pages, for he occupied a very conspicuous position in the commercial progress of Britain during the early part of the nineteenth century. He was born in the year 1770 and was educated at various schools at Brewood, Allbrighton and Appleby in Leicestershire, England; but a very important feature of his education must have been his visit to Paris in 1783, where he remained for some time, and became later private secretary to

Lord Gower, the English Minister (1790). He next entered upon a Parliamentary career, and in 1795 became Under-Secretary for War and the Colonies. In 1796 he was member of Parliament for Morpeth, but when Pitt resigned in 1801, Huskisson followed his leader into political retirement. Only a very few years later, however, he returned to office with the advent of his party to political power, and was in 1804 made Secretary to the Treasury. For a short time he was out of office and in opposition (1806), according to the changes of party politics, but resumed the same office again in 1807. He lost it again when he retired with Canning in 1810; but four years later came back as Chief Commissioner for Woods and Forests. His great opportunity came when he was made President of the Board of Trade in 1823, during which time he sat for Liverpool as member of Parliament; and he also did good work as Colonial Secretary in 1827. He resigned, however, during the next year and died in 1830 as the result of a railway accident on the occasion of the opening of the Liverpool and Manchester Railway.

Just three years before William Huskisson was appointed President of the Board of Trade, a remarkable step was taken by some leading merchants and men of business in London. They formulated in 1820 a petition praying that every restrictive regulation of trade except those which were imposed on account of the revenue, together with all duties of a protective character might be at once repealed. The leading merchants of Edinburgh supported this by a similar petition, and a Parliamentary Committee was appointed to investigate the two documents. This committee finally brought in a report which was quite in harmony with the objects of the petition, and it was not long before the main principles of their requests were adopted in the legislation associated with the name of Huskisson in following years. This action of the merchants of London and Liverpool deserves special notice as marking the beginning of the modern era of free trade in England, and it is clear that the necessity for greater freedom must have become very pressing before action was taken in this public form.

The British position before this was one of wholesale protection. There was hardly an article of commerce that came into the country that was not burdened with heavy duties. "The tariff list of the United Kingdom," it has been said, "formed a tolerably complete dictionary of all the products of human industry." The collection of all these duties, of course, made a very large system of custom-houses necessary, together with a multitude of officials stationed in every part of the Kingdom. In consequence of this, the practice of smuggling grew to an enormous extent, for the results of a smuggling expedition, though often precarious, were when successful extremely profitable, while the deeds of the smugglers were condoned, if not abetted, by many who, directly or indirectly, enjoyed the results of their illegal actions.

But one of the main features of the whole system of protection which in the first half of the nineteenth century weighed heavily upon thousands of the population was the regulation regarding the import of foreign grain. In 1824 foreign wheat was totally prohibited from entering the United Kingdom until the average price of wheat in the country had risen to seventy shillings per quarter. When the price went beyond this limit, foreign wheat was admitted at a high duty, which, however, decreased to five shillings and twopence a quarter by the time the current home price had risen to eighty-five shillings. This Corn Law was only the latest of several others, and it had been passed in 1822 under Lord Liverpool's government. Severe as it now seems, the corn-duty was by this law made lighter than under previous regulations, for, before this, the importation of foreign wheat had been forbidden till the current price in England had reached eighty shillings a quarter, which meant, at that price, no less than one shilling and fourpence for the quartern loaf. Of the results of this legislation for corn we shall speak in a moment, but we must conclude our survey of the commercial policy of England by a reference to the restrictions on shipping.

Under the Navigation Act, which was in force at this time, foreign commodities could only be imported either in British ships, or in ships of the country in which the goods were produced, while the colonial trade was entirely in British hands. Even this law, stringent as it was, was yet milder than the legislation existing prior to 1815, when these restrictions applied to exports as well as imports, and no British goods could be exported except in British ships. Under this state of things, British ships conveyed British exports to America, but often had to return empty, while in the same way American ships came loaded with cotton to Liverpool, but were not allowed to take any British exports back. But after 1815, these restrictions as regards exports were removed; and, in any case, in commenting upon the legislation then prevailing, it must be remembered that it was to a large extent exceptional owing to the period of war with which so many countries were afflicted. With regard to imports, the old regulations still remained in force and the Navigation Acts " were regarded by the majority of the people as the Palladium of our maritime supremacy."

The keynote, in fact, of the commercial policy of the time was that we should induce the foreigner to buy as much as possible from us, while we bought as little as possible from him. This was called " maintaining the balance of trade in our favour," but as every other country pursued the same policy, the result was never very satisfactory. Its failure as a method of conducting international business would be more readily perceived, even to-day, if individual men of business tried to pursue the same policy in regard to each other. If A tried to sell as much as possible to B and yet to buy nothing from him, it is obvious that before long B's stock of cash would be exhausted, and no further business could be done. What really happens in commerce is that each country merely exchanges commodities with others, and the balance of money which passes between them is only a means by which this exchange is facilitated. This fact was not, however, perceived by many people in the " twenties," nor is it quite as clear as it might be to many persons engaged in commerce even now. But the year 1823 saw a marked change made in the direction of greater freedom of trade.

In January of that year William Huskisson was appointed President of the Board of Trade. In July of the same year a beginning was made by a Bill, carried through Parliament under his auspices, enacting that all duties and drawbacks should be levied and allowed equally on goods carried either in British or foreign vessels; and thus a very important change was made in the spirit of the Navigation Acts. The very next year (1824) witnessed a change in another direction. Hitherto all silk goods from foreign countries had been practically prohibited from admission into the United Kingdom. That is to say, they were prohibited by law, but an extensive smuggling trade was actively pursued. So successful was this smuggling of silk goods that every one who could afford foreign silks was able to get them in spite of the custom-house officials. Joseph Hume on one occasion displayed a bandana silk handkerchief in the House of Commons during one of his flights of oratory, exclaiming: "Here is a foreign ware that is totally prohibited. Nearly every one of you has a similar illicit article in his pocket. So much for your prohibition!"

But, though most of the members of the Parliament of a protectionist country were thus supplied with goods which the laws they made forbade them to purchase, the silk manufacture was stringently protected. Its chief seat was the district of Spitalfields in London, and from the accounts which have come down to us, the silk manufacture there must have been the scene of various vicissitudes. It is certain that the silk weavers occasionally displayed great violence when they imagined that their trade was in danger. At one time, we are told, fancying their occupation was injured by the fashion then prevalent of using printed calicoes for women's dresses, gangs of the weavers went about throwing corrosive liquids on cotton dresses and even brutally tearing them from the backs of those who wore them.

At another time, they were agitated by the belief that numbers of Irish people were coming to London in order to work in the silk trade at less than the ordinary wages; and the Spitalfields weavers therefore proceeded to a house in Whitechapel where some Irish were supposed to be lodging, and fiercely attacked and destroyed it, one person being killed and several wounded during these riotous proceedings.

But the time was now at hand when a far more serious blow than changes of fashion or importations of Irishmen was to be directed at this industry. In March 1824, William Huskisson proposed and successfully carried a bill by which the prohibition on the import of silk goods should cease in little more than two years' time (July 1826), while the duties on raw and unfinished silk were to be largely reduced.

The result of these measures was by no means what the supporters of the old system had imagined. The silk industry of England, instead of being ruined, received a fresh impetus. "We do not exaggerate, we only state the plain matter of fact," said a distinguished economist some twenty years later, "when we affirm that the silk manufacture has made a more rapid progress since the abolition of the prohibitive system in 1826 than it did during the preceding century. Some of our readers will probably be not a little surprised to learn that the real or declared value of the silk goods of British manufacture exported *to France* in 1842 amounted to 181,924 pounds sterling." This was due to the importation of new methods and machinery from the Continent to England, so that the surprising result took place of France actually receiving silk goods from a country which at one time was incapable of exporting them. Certain it is that the amount of raw silk imported into England increased from one and a half million pounds weight in 1814, and two million pounds weight in 1823, to three million eight hundred thousand pounds weight in 1840, while the exports of English-manufactured goods rose from a value of half a million sterling in 1832 to eight hundred thousand pounds sterling in 1840.

The same results may be seen in the wool trade, legislation on which formed another important feature of Huskisson's wo[illegible] time. From the year 1660 down to 18[illegible] export of wool from England was strictly p[illegible]. It was imagined that the English wool was superior to that of any foreign country, and that long wool, *i.e.* wool of long staple, could not be produced elsewhere, so that if Englishmen could succeed in keeping the growth of wool in their own hands, and manufacture what they grew, then the whole trade in woollen cloths would remain in English hands. Hence very severe statutes were passed to prevent the export of wool. But when the improvements in machinery, which were made in the Industrial Revolution (see above), proved that "short" wool could be used as well as long wool for manufacturing purposes, of course the great argument on this head fell to the ground.

As regards the import of wool, it had been quite free down to the year 1802, and, since it formed the raw material of a very important branch of manufacture, the policy of letting it come in free was obvious. But, in spite of this, in the year 1802 a duty of 5s. 3d. per cwt. was placed on all foreign wool imported, and in the year 1813 this duty was raised to 6s. 8d.

per cwt., while at length in the year 1819, the duty was still further raised to the extraordinary figure of 56s. per cwt., equivalent to sixpence per pound. Of course, if there had been sufficient English wool grown to meet the wants of the manufacture, there would have been less objection to this course, but such was by no means the case. For many purposes foreign wool was better than English, and it was absolutely necessary for the manufacturers to have it. It is not surprising, therefore, that manufacturers were strongly in favour of the import duties on wool being taken off, though naturally the agricultural interest thought that a duty on foreign wool would protect the wool of English growth and keep up their prices.

But it was found that after Huskisson's legislation had permitted the export of wool, and had vastly reduced the import duties, although very large quantities of foreign and colonial wool came into the country, the price of British wool remained on an average higher than it had been before, while, of course, the manufacture increased very greatly. The price of Southdown wool varied in the years 1820 to 1825 from 1s. 2d. to 1s. 5d. per pound, and from 1830 to 1840 from 10d. to 1s. 6d., with an average of 1s. 2½d. per pound for these eleven years. As regards the cotton trade, however, it is noticeable that when Huskisson offered to abolish the import duty on raw cotton, if manufacturers would give up the export duty, the manufacturers declined his offer, but the general effect of his measures in regard to silk and wool, and also shipping, was to make a most important step in the direction of freedom of trade, afterwards followed by Peel and Gladstone.

CHAPTER XXII.

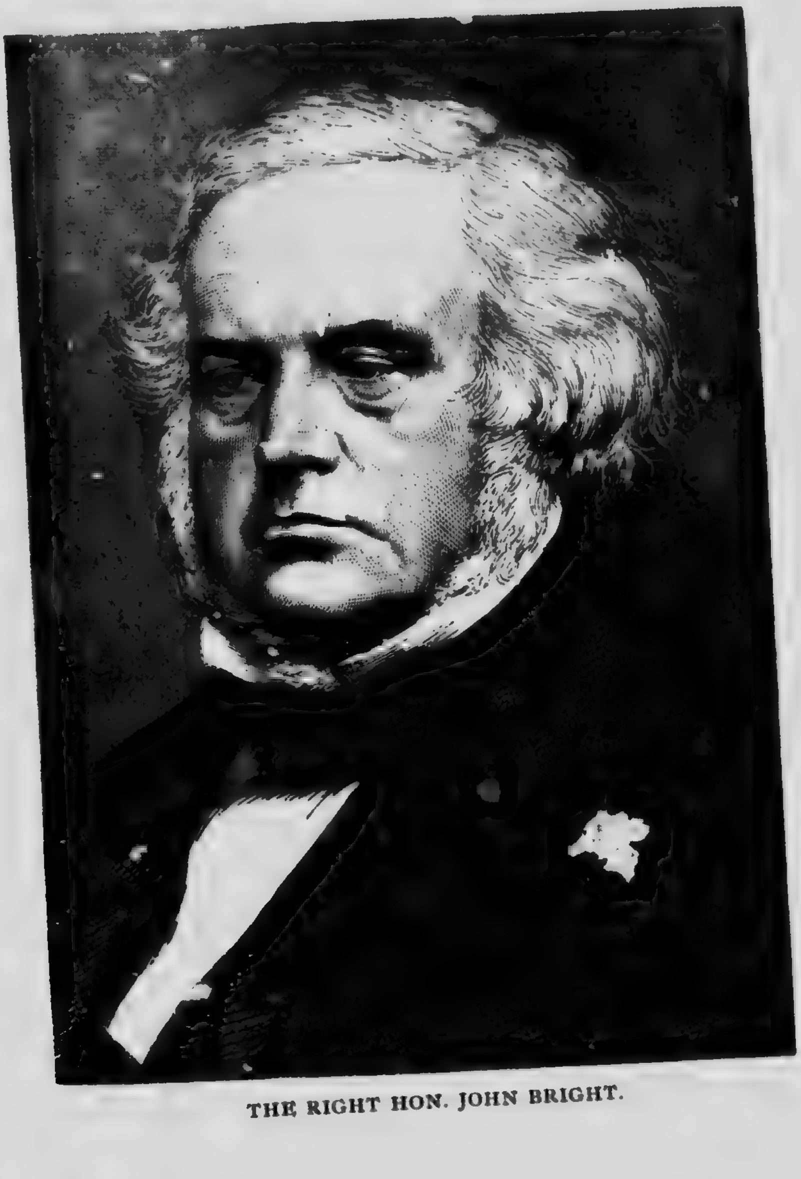
THE ENGLISH CORN LAWS AND THE CONDITION OF THE PEOPLE.

BUT the main point round which the discussion on commercial policy was carried on was the Corn Laws. To their general operation we have already referred, but we may now speak briefly upon their effects. Whenever there was a deficient harvest the prices of wheat rose with alarming rapidity, and reached most portentous figures. Thus, when for two or three years there had been unsatisfactory harvests, we find that the price of wheat rose in December, 1816, to five pounds three shillings per quarter, then in January, 1816, to five pounds four shillings, and in June, 1817, to five pounds twelve shillings per quarter. The populace clamoured for bread and riots became frequent.

It may be asked, however, did not foreign wheat come into the country in large quantities when these enormous prices could be got for it? It certainly did come in, but from want of previous organisation for purchase and shipment, the supplies arrived only slowly when the demand was most severe, and when it grew less they seem to have come in with almost superfluous abundance. Then, when the country had a sufficient supply of foreign wheat, the harvests became better again, so that before long the prices fell as abnormally low as they were previously abnormally high. Thus in December, 1821, after the average price for the year had been only fifty-six shillings per quarter—just half what it was in June, 1817—it sank to only thirty-eight or thirty-nine shillings.

"What trade, indeed what country," asks the author of the history of the free trade movement, "could prosper under the recurrence of such extravagant fluctuations as these in the price of food? In 1817 hundreds of thousands of the working classes were brought to the brink of starvation by wheat at one hundred and twelve shillings per quarter; in 1821 thousands of farmers were brought to absolute ruin by wheat at thirty-nine shillings per quarter, their rents having been fixed on the basis of high prices. An unnatural and unblessed state of things truly, since under it, if the nation enjoyed plenty, the farmers perished; and in order that the latter should prosper it was necessary that the people should partially starve."

The evil effects of the old system were seen to a certain extent, and in 1828 the "sliding scale" of duties on corn was introduced, by which as the price of corn rose the duties fell, and as the price fell the duties rose. But the politicians, and indeed the mass of the people, were too engrossed at this time in the question of the Reform of Parliament and the great Reform Bill of 1832, to pay much attention to any agitation for the alteration of the Corn Laws, and it was not till ten years later (1838) that the world-famous Anti-Corn Law League was started at Manchester. Of that League John Bright, of Rochdale and Richard Cobden, of Manchester, were two of the most renowned and earliest members, while Mr. C. P. Villiers, M.P., who only died quite at the close of the century (1898), also took a long and prominent part in its proceedings.



THE RIGHT HON. JOHN BRIGHT.

As soon as the League was formed, it began operations in a constitutional manner, by raising the question in the House of Commons, but a motion to hear certain persons "complaining of the operation of the Corn Laws" at the bar of the House was defeated (19th February, 1839) by no less than 361 votes to 172. Richard Cobden, however, showed by his speech next day to the delegates of the association the sort of spirit which animated the leaders of the movement, and indicated at the same time the methods to be adopted. "The delegates," he exclaimed, "had offered to instruct the House; the House had refused to be instructed. But the House must be instructed; and the most unexceptionable and effectual way will be by instructing the nation."

The "instruction of the nation" accordingly began, and there was quickly published in Manchester the "Anti-Corn Law Circular," which soon obtained a large circulation. At the same time tens of thousands of circulars were issued especially to farmers and the working classes. Some idea of the large scale upon which the free trade party went to work may be gained from the fact that in January, 1840, they arranged two huge banquets at Manchester for the delegates of the Anti-Corn Law Association. There being no hall in the town large enough for their purpose, they built a pavilion 150 feet long and 105 feet wide, in which were placed tables to seat three thousand eight hundred persons. The assembly was further supported by the presence of twenty-six members of Parliament, and immense enthusiasm was, of course, displayed. The day following this, another gigantic meal was served to five thousand working men, while their admiring wives and daughters watched the proceedings from the surrounding galleries. We are told that "the utmost order, harmony and enthusiasm prevailed," and the gigantic banquets "attracted much attention and excited much interest throughout the country."

But banqueting was by no means the ordinary feature of the agitation of those times. Indeed, a year or two later, such a banquet would doubtless have been considered out of place, for the country began once more to suffer severely from an insufficient supply of food. In 1841 the combined effects of a bad harvest, of depression in trade, and a financial crisis brought many of the mercantile community to the verge of ruin, and caused the widest distress among the working classes. In the manufacturing districts, the misery that prevailed was terrible. "Some of the details are quite appalling, and testify to an intensity and universality of destitution, starvation and misery to which no period of temporary distress since the adoption of free trade in England can show the slightest approach. In Leeds there were 20,936 persons whose average earnings were under one shilling a week. In Nottingham ten thousand persons—nearly a fifth of the population—were in the receipt of parochial relief.

"In most of the leading trades of Birmingham the men were earning one-half, and in some cases one-third, of their usual wages; while some masters were so near ruin that they had, on a Saturday night, to pawn their goods to pay their men's wages. In Paisley, thirty failures took place within two months, and one-third of the wage-receivers were thrown upon the public for support. In Manchester twelve thousand families, after having pawned every article of furniture and of dress with which they could possibly dispense, were supported by voluntary charitable contributions. One-third of the population of Coventry was out of work. In Spitalfields eight thousand looms were idle, and twenty-four thousand persons thrown upon parochial relief. In London one thousand letterpress compositors and nine thousand tailors were altogether without work." At the same time, amid all this distress, the duty upon imported foreign wheat was even then by the sliding scale over twenty-four shillings per quarter. Though the distress of the masses was not altogether caused by the duties upon corn, it was nevertheless somewhat aggravated by them, and the outcry against the Corn Laws gained renewed strength from the unhappy condition of so many of the nation.

It says a good deal for the strength of purpose which animated Sir Robert Peel, that it was during this period of crisis he ventured to bring forward a financial proposal which was the greatest step in the direction of free trade since the days of Huskisson. On March 11th, 1842, he produced his new financial scheme, by which, it is not too much to say, he completely changed the spirit as well as the form of national taxation. The two main features of his proposal were, first, the imposition of an income-tax of sevenpence in the pound on all incomes above £150 per annum, and, second, a revision of the customs tariff. There were at that time some twelve hundred articles paying import duty, and of these he advocated a reduction on no less than seven hundred and fifty. This was a very bold step. The tariff had been increased and imposed until there were duties on almost every conceivable article that could come into England from abroad, and the official forms under which the articles were classed were extremely complex. What with conflicting valuations, differential rates, identification of nationalities, oaths, declarations, affidavits, and all the paraphernalia of an extensive and far-reaching customs system, it seemed an almost impossible task for any financial reformer to gain a clear view of the vast and unwieldy organisation.

But Peel proceeded with his task, and emerged successful. His speech upon the subject in the House of Commons is worth some passing quotation. "We have attempted," he said, "to remove all absolute prohibitions upon the import of foreign articles, and to reduce duties which are so high as to be prohibitory to such a scale as may admit of a fair competition with domestic produce. I contend that if there be any truth in the principles of either trade or arithmetic, the inevitable result must be to make a great reduction in the present price of living in this country, as compared with the price of living in other countries."

As showing the manner in which heavy import duties led to evasion, he read in the House extracts from a letter or circular from a noted smuggler to a London firm, stating the premiums which the smuggler charged for conveying French lace, veils, gloves and similar articles, through what was euphemistically called "the indirect channel." These premiums varied from eight to thirteen per cent, and were, of course, "considerably below your Custom House duties," as the smuggler took care to point out. One is reminded of the episode mentioned some pages above when Joseph Hume, the financial reformer, referred to the manner in which even members of the House of Commons were provided with silk handkerchiefs.

Of course this sweeping measure was violently opposed, and a Tory member declared, with prophetic foresight, the alarm he felt, because "when the tariff was passed the next step to be expected was the repeal of the Corn Laws." And, indeed, this step was inevitable. It was only natural that the landed interest should oppose the repeal, and they need not be blamed for it. The Anti-Corn Law agitators, and many of those who have written upon that famous struggle, were too hard upon their opponents. They expected the British agriculturist to be more than human, if they thought he would consent joyfully to what seemed to him at the time a certain loss of income, and a very probable extinction of his means of livelihood.

Meanwhile the distress of the country still continued very great, and the Chartists were actively at work fomenting the already angry spirits of the working classes. They even opposed the Corn Law Repealers, declaring that the working classes would gain all they wanted when they had passed the Charter. But this only stimulated the Repealers to fresh exertions. Innumerable public meetings were held, thousands of lectures were delivered wherever an audience could be found to listen, bales of leaflets and tracts were distributed gratis, and finally a fund of no less than fifty thousand pounds was raised to be spent in "educating" the masses upon the subject of Corn Law Repeal.

But, a little later, more than double this sum was raised, and that it attained its object is evident from the rapid way in which public opinion was coming round. In 1845, however, there occurred an event which gave to the people of England a terrible object lesson as to the effects of scarcity of food for a whole population; and there can be little doubt that this had a great deal of influence upon the popular mind. This event was the Irish potato famine. Nearly three-fourths of the whole population of Ireland subsisted to a very large extent upon potatoes, and now they suddenly found their whole means of livelihood gone. The potato plant was affected by a kind of pestilential blight, which does not appear to have had such terrible results at any previous time in the history of the cultivation of this root. Even such portions of the potato crop which had been to all appearances quite sound, when dug up, rotted away when they had been pitted, and became simply a putrid mass; so that millions of people in Ireland who had depended entirely on this crop for their food, until the next crop came round, now found themselves with nothing before them.

It is almost impossible to realise the full extent of this misfortune until we consider the economic conditions under which it occurred. There had been a time when Ireland did not depend so exclusively upon the potato, but grew wheat, oats, and other grains, not only so as to suffice for her own consumption, but to leave a certain quantity for export. The ease with which the potato could be cultivated, however, led to its becoming more and more the typical crop of the Irish peasant, and corn-fields were turned into potato patches. The process of planting, digging up and pitting potatoes required so little labour, and still less capital, as compared with other crops, that the Irish were attracted to the production of this root to such an extent that by this time the potato had become the mainstay of their food supply. Several politicians and economists, including the active reformer, William Cobbett, perceived that the turn which Irish agriculture had thus taken was by no means in the best economic interests of the country, and various objections to it were pointed out. But no one had believed that it was possible that an unforeseen plague should suddenly destroy and sweep away all the available supply. When this occurred, therefore, it left the Irish people face to face with starvation.

It must not be thought that Ireland was the only country which suffered from the potato blight. On the contrary it affected also Great Britain, Belgium and many parts of the Continent; but the disease seems to have been more severe in Ireland than elsewhere, owing partly to the climate, and partly to the large area which was subject to it. But severe as it was, it would not have had these terrible and fatal effects if Ireland had not been the only country where potatoes formed the staple food of the population, whereas in other countries they were regarded, as they are now, as merely a subordinate product.

CHAPTER XXIII.

THE REPEAL OF THE ENGLISH CORN LAWS.

UNDER these circumstances the results of the potato blight were most disastrous. Starvation, with its inevitable accompaniments of disease, stalked unresisted through the land; and in spite of the most determined and lavish efforts of private and public charity,thousands upon thousands of the people were starved to death. In face of a calamity such as this, resistance to the demands for free trade in corn and grain began to become perfectly hopeless, more especially as the English grain harvest threatened to turn out badly. People began to fear a repetition, though on a smaller scale, in England of what was happening at their very doors across the Irish Channel. There was intense excitement, and the corn trade itself was in a state of the utmost suspense.

"On the morning of the 4th December, 1845, the country was startled by an announcement in *The Times* that the Government had determined to repeal the Corn Laws and to call Parliament together in January for that purpose." The *Standard*, another leading London paper, next day denounced the statement of *The Times* as "an atrocious fabrication," but it was true, nevertheless. How *The Times* obtained this early information has never been known, but it was substantially correct, although, owing to dissensions in the Cabinet, Sir Robert Peel was not able to do anything immediately. But on the 27th

January, 1846, he brought forward a scheme of tariff reform which practically embodied all that the free trade party had been demanding.

The principal changes he proposed were as follows: All duties on foreign manufactured goods were to be abolished on the coarser descriptions, and reduced from twenty per cent to ten per cent on the finer qualities. Duties on timber and tallow—the only two raw materials on which duties had not been already repealed—were reduced more than one-half. Silk goods were to be admitted at fifteen per cent duty instead of thirty per cent; while the differential duties on free-labour sugar were reduced by one-half. Then came the duties on food products. In future, animal food and vegetables were to be admitted free, as also maize and buckwheat. One-half of the existing duties on butter, cheese, hops and cured fish were removed. In short, the duties were to be reduced, or altogether repealed, on more than one hundred and fifty articles.

Finally came the great proposal as to the Corn Laws. In three years' time Peel proposed to admit wheat, oats, barley and rye, entirely *free;* in other words, the old Corn Laws were to be altogether repealed. The repeal was to come gradually during these three years, so that in 1849 there would be no duty at all.

In concluding his speech, Sir Robert Peel remarked: "I ask you to give your consent to this measure, not upon any narrow view that its principle is connected with the accumulation of wealth. The true source of increased revenue is the increased comfort, and the voluntary taxation, which arises from increased consumption. I ask you to give your consent upon proof advanced to you that abundance and cheapness lead to diminished crime and increased morality." The reference to the decrease of crime and the increase of virtue by the simple process of giving the populace cheap food may seem to readers of the present day slightly ludicrous, and even out of place; but nothing is more significant of the way in which the question of Corn Law Repeal had taken hold of the public mind than the manner in which those in favour of it believed that they were acting in the highest moral, as well as material, interests of humanity.

The Repeal Bill was passed, but it cost Peel his post as Premier. He was at the head of a Conservative Government, but was supported by the Opposition rather than his own party. It could hardly be otherwise; for it was not likely that the landed interest and agricultural classes, who formed the backbone of the Conservatives, should look with any pleasure upon what they considered was a measure leading to their financial ruin. But Peel's own closing words, when he laid down office, were full of dignity. "I shall surrender power," he said, "severely censured, I fear, by many honourable men, who from no interested motives have adhered to the principles of protection because they looked upon them as important to the interests and welfare of the country. I shall leave a name, I know, execrated by every monopolist who would maintain protection for his own individual benefit. But it may be that I shall leave a name sometimes remembered with expressions of good-will in the abodes of those whose lot it is to labour and to earn their daily bread by the sweat of their brow, when they shall recruit their exhausted energies with abundant and untaxed food, the sweeter because it is no longer leavened with the sense of injustice."

At the same time Peel gratefully acknowledged in public that the brunt of the work of Corn Law Repeal had fallen on the shoulders of one man, Richard Cobden, and that this was indeed the case may be seen from any study of the period in question. Richard Cobden, John Bright, and Charles Pelham Villiers formed a triumvirate of reformers, but Cobden was the chief. His services were recognised by his grateful followers in the presentation to him of a testimonial of nearly eighty thousand pounds. His acceptance of this has been severely criticised by some of his opponents, but, as Mr. Morley points out in his *Life*, Cobden had sacrificed practically the whole of his business career in order to devote himself entirely to the Corn Law question, so that the money did not represent more than some return for the pecuniary sacrifices which such a devotion to his cause entailed.

It is interesting, after reading the dignified speech of Sir Robert Peel, just quoted above, to compare with it Cobden's note to his wife on the day the Corn Laws were repealed, and we quote it here as giving a very human touch to a somewhat severely economic question: "*June 26th;* My dearest Kate —Hurrah! Hurrah! The Corn Bill is law, and now my work is done. I shall come down to-morrow morning by the six o'clock train in order to be present at a Council meeting at three, and shall hope to be home in time for a late tea." The picture of Cobden going home to tea after his work was done gives a beautiful touch of domesticity to the otherwise somewhat arid sphere of politics.

Before finally quitting this subject of the Corn Laws, it may not be out of place to give a short sketch of the life of this economist who impressed his personality so forcibly upon his contemporaries. Born in 1804, he passed from his father's farm at Dunford, near Midhurst in Sussex, to a London warehouse, and became a commercial traveller for his firm. In the year 1832, he began business in Manchester on his own account, and his cotton-printing works at Manchester and Salden soon developed into a flourishing concern. In 1841, being already known as a vigorous writer on public questions, as well as an active and powerful advocate of free trade, he entered Parliament as member for Stockport, near Manchester. Thus, although in many ways a typical "Manchester man," it may be noted that Cobden was the son of a Southern farmer, and perhaps it was his combined knowledge of the actual conditions of agricultural and manufacturing life that fitted him so well for the task which he undertook.

After the repeal of the Corn Laws, he proceeded even more vigorously upon his attack upon all indirect taxation, and here it may be said that his principles were a little too doctrinaire. He constantly and consistently opposed war, notably in the case of the Crimean war (1854) and the war with China (1857), and was often accused of desiring "peace at any price." Though this charge is hardly true, it may yet be admitted that Cobden and his school did not sufficiently realise that there may be other reasons for going to war than those which are purely political or economic. He was an ardent advocate of commercial treaties, and, as we shall see later, did a signal service in arranging the Anglo-French treaty of the year 1860; and it has been objected against him that, in this respect, he was inconsistent with his own theory of perfect freedom of trade, since a treaty must always involve a certain amount of regulation. But to this it may be answered that he only advocated treaties when it was evident that the force of England's example alone would not convert other nations to free trade; and that, by such treaties, greater freedom was secured than would have been the case otherwise. In the year 1850, while absent on a tour in America in connection with the Illinois railway, wherein he was a large shareholder, he was elected member for Rochdale, and sat for this town till his death in 1865.

CHAPTER XXIV.

ENGLISH COMMERCIAL POLICY AND PROGRESS OF ENGLISH TRADE.

We may now take a survey of the various steps by which England took up the position which she now occupies of being a purely "free trade" country. We have already seen the main features in the development of her commercial policy, but we may fittingly conclude with a general outline of the whole of free trade legislation. The first instalment of free trade—the first, that is, after the tentative efforts made by Huskisson—was granted in the year 1842, by which time, owing to the growth of railways and of mechanical inventions, English exports had increased to a value of over fifty million pounds sterling, although from 1816 to 1830 they had remained almost stationary at an annual average of some thirty-six million. The concessions in 1842 were comparatively slight, yet in the three years 1843 to 1845 inclusive the average value of exports was fifty-seven million sterling, showing an increase—whatever the cause may have been—of six million pounds. The second instalment was that given in 1845, when Sir Robert Peel abolished all duties on exports, and admitted no less than 430 out of the 813 articles of raw material free. At this time the Corn Laws, the Navigation Acts and the Sugar duties remained untouched.

But the third and greatest step was that taken in

SIR ROBERT PEEL, BART.,
Prime Minister of Great Britain, 1841-46.

1846—though it did not come into operation till three years later—when, as we have seen, the Corn Laws were repealed. In addition to this repeal, the import duties on more than a hundred articles of trade were also abolished, and the Navigation Acts, to which we have alluded before as regulating our shipping trade, were likewise repealed. Whether from this, or from some other cause, it is certain that the exports from England rose to a remarkable extent, from over fifty-two million sterling to sixty-three million and a half. And not only did they rise in that year, but the increase continued, for if we look at the figures of trade during the period 1849 to 1852 we find that the annual average was seventy-two million sterling, which represents an increase of fifteen million per annum over the preceding period of three years.

Though this was the most decided measure of free trade that had yet been granted, it was not, however, the last. To all intents and purposes England was now committed to a free trade policy, and it certainly seemed as if that policy was best suited to the trade of the country. The exports still went on increasing, and even during the period of the Crimean War, 1853 to 1855, the average value of the exports was ninety-seven million sterling.

The year 1853 saw a further revision of the tariff, when Mr. W. E. Gladstone, as Chancellor of the Exchequer, brought in a financial scheme which further reduced or abolished duties on some 250 articles. He announced that he was guided by the following rules: (1) to abolish unproductive duties unless in exceptional cases; (2) to abolish duties upon half-manufactured articles; (3) to reduce the duties on finished manufactures to ten per cent, with the exception of the silk duty, which was retained at fifteen per cent; (4) to make all duties specific instead of *ad valorem;* (5) to get rid as far as possible of differential duties; and (6) to lower duties on articles of food of general consumption. Thus several articles of food, such as tea, cocoa, butter, eggs, cheese, apples, nuts, oranges, lemons, and raisins, were freed from duty or subjected to a much lighter one.

The Crimean War interrupted for a time the progress of financial reform of the tariff, but in the year 1860 a still more comprehensive Budget was brought forward, again by Mr. Gladstone. Those duties on food which had been only reduced in 1853 were now abolished, with the exception of those on tea, cocoa, and dried fruits, while the protective duties on manufactures were also taken off. "There will be," said Mr. Gladstone, "a sweep—summary, entire, and absolute—of what are known as manufactured goods from the face of the British tariff." Even the differential duties on foreign wines and brandies were removed, and a lighter scale of duty placed on light wines.

The result of all this was that the English customs system became much more simple in its working, and far more easy to manage. In the year 1842 the number of articles subject to duty was one thousand and fifty-two, and even this was less than it had been only a few years previously, when the number was over twelve hundred. By the year 1853 the number had fallen to four hundred and sixty-six; in 1859 to four hundred and nineteen, and after the reform of 1860 to only forty eight. Even of this list, only fifteen were productive of revenue; but the revenue on these was singularly fertile. Five articles alone produced more than a million pounds of income each, namely spirits, sugar, tea, tobacco and wine; four more, namely coffee, corn, currants and timber, accounted for between two hundred thousand and a million sterling each; while the remaining six, including chicory, figs, hops, pepper, raisins and rice, brought in from twenty thousand to two hundred thousand each. But even out of this small list, further exemptions were afterwards made, since hops (1862), pepper and timber (1866), corn and rice (1869) and sugar (1875) were in turn all relieved from duty.

It has sometimes been said that the free trade policy of England, thus formally entered upon during the first sixty years of the nineteenth century, was the result of panic proceeding from a fear of famine, and that but for the Corn Laws, this policy would never have been adopted. But this is really far from the truth. A distinguished and impartial modern economist (Professor Bastable) has pointed out that it took no less than forty years and the efforts of many distinguished statesmen to reach this point, and that if any criticism may be made, it is that the progress made was too slow. The principles of free trade were theoretically recognised long before they were put into practice, and if they had only been put in practice sooner, it would have been better for the country.

“We can hardly over-estimate the benefits that the tariff of 1860 would have given to the England of 1825. The long and bitter contest between the landed and the manufacturing interests would have been avoided; the growth of the larger English industries would have been more rapid; the colonies would have been saved the shock which the withdrawal of their privileges after so many years undoubtedly inflicted upon them; and, most important of all, the spirit of retaliation would not have been aroused in other countries, nor could the plea have been made by foreign protectionists that it was by restriction that England became fitted for, and able to endure, free trade. What was done at the end might have been done at the beginning, if only the legislature had been wiser." But it can truly be said, now that England has done her best to atone for past errors, and is thus adopting the policy which frees industry and commerce as far as possible from all unnecessary hindrances, she has won for herself a unique position in the world of commerce.

It may be perhaps objected that in writing a history of the progress of commerce in the nineteenth century, we have devoted too much space to questions of commercial policy in general and of English commercial policy in particular. But a little reflection will show that this is not the case. The story of progress is necessarily bound up with the question of policy; for the latter cannot fail either to affect the former or to be affected by it. And in the history of the commerce of the world, it cannot be denied that during the first half, if not during the first three quarters of the century, the commerce of England has held the foremost position. That this position is now seriously threatened by Continental and American rivalry cannot be doubted; hence it is the more important to understand the causes which led to England taking that position, and those which may conduce to her losing it.

There can be little doubt that, at the time when free trade measures were introduced, they were most beneficial to English commerce, owing to the peculiar circumstances of the case. Whether they still are so beneficial is a question which many people seem anxious, at the present moment, to answer in the negative. But whatever the answer may be now, it is most essential to understand fully the details of what has gone before; for nothing conduces to a better comprehension of economic and political problems than a proper knowledge of the history of previous efforts. And, as British commerce has occupied such a leading position in the story of civilisation and progress in the nineteenth century, it is not out of place to note the policy by which that commerce was actuated and under which it flourished. We have already had occasion to see how the commerce of the United States was influenced by tariff regulations, and how these regulations were based upon what was supposed to be the true interests of the country. We shall shortly have occasion to see how France and Germany adopted a certain policy, and how one of them at least seems to have progressed under it. It is, therefore, of great interest to see how and why England adopted the policy she did, and what have been the effects of it.

It may, however, be remarked that however much a free trade policy may suit, or may have suited, England, it does not follow that it will suit every country equally. This is undoubtedly true, and perhaps some of the more ardent of English free-traders have been unwise in assuming that what is good for one country must be good for all. Yet, on the other hand, few persons will deny that, in theory at least, trade makes most progress when it is altogether unhampered by governmental or artificial restrictions. If it were only possible for every country to sweep away all tariffs and customs regulations, there can be no doubt that commerce would receive a new impetus, and be filled with a new life. Commodities would flow freely from one country to another, and each would produce that for which it was best suited. We should have no wars of hostile tariffs, but each would exchange freely what it wished with others.

Whether this result will ever be arrived at may be doubted, but it will be admitted by most that, if it were possible, it would certainly be better for the world's commerce. But perhaps the very fact that it took so much time and labour to arrive at free trade, even in England, will help us to understand the difficulties which beset commercial reforms in other lands. It was the special position of British industries which enabled the government to do what it did; and this was aided by the relations in which the different classes of the industrial community stood one to another; a point to which we shall refer in a moment. There is, therefore, some justification for writers who maintain that, however good free trade may be for the special circumstances of England, it would not be so beneficial to other countries. After all, each community must judge for itself, and it is useless to expect it to follow the example of another which may be differently situated.

CHAPTER XXV.

PRINCIPLES OF POLICY AND THEIR BEARING ON PROGRESS.

IT should not be forgotten that in England statesmen of a progressive type had accepted the theory of freedom of exchange more or less heartily since the days of Adam Smith, although in practice they declared that the theory must give way to the exigencies of politics or of national interests. "The evidence of facts brought it home to those interested in industry that the best hope for progress lay in the opening up of fresh markets for manufactures and a reduction of the expenses of production."

From this we may deduce the main principles which have guided the commercial policy of England in modern times. These principles may be described as coming under four heads, (1), the first of which is that raw materials should be entirely free from taxation. This seems almost self-evident, for to tax the material upon which the manufacturing industry of a country relies for the use of its workers is inevitably to impose upon them an unnecessary burden in the competition for the open market. We, therefore, find that it was the abolition of duties on raw material that was one of the earliest of the changes in the direction of freedom.

Then (2) the next principle we notice is that the means of life should, as far as possible, be free. It must be true, upon all principles of economics or common sense, that in the long run the increased cost of living must result in an increase in the rate of wages. If a labourer or artisan has to pay highly for his food, he must have high wages to make up for the extra cost of living, or else he must be content to live upon less, and in less comfort. If he gets high wages, then the loss falls to some extent (if there is a loss, which some doubt) upon his employer; if he gets low wages, and yet has to pay a high price for food, the result is that his mode of life deteriorates, and he becomes not so fit for work. In other words, his efficiency as a working machine is impaired. In either case, whether the employer suffers or the labourer, the result upon the total industry of the country is very much the same. It is for this reason that it is so important, especially in a manufacturing country like England, that the supply of the means of livelihood for the working classes should not be interfered with by any artificial restrictions; and the repeal of the Corn Laws was a brilliant example of this theory being reduced to consistent practice.

A more difficult question arises with regard to the third principle, (3), the abandoning of all protective differential duties on manufactures or so-called "articles of luxury." It is clearly seen by many who are otherwise not free-traders that raw materials, or food for the masses, should not be burdened by taxation; but when it comes to taxing articles like lace, or wine, or similar articles of luxury, a different attitude may be taken up. Here free-traders argue that it is impossible to draw the line between luxuries; what one age considers luxury may be to another age only an ordinary comfort, or even a necessary. That eminent financier, Mr. Gladstone, remarked on one occasion when dealing with this point: "You may make tea or sugar, or any other article of consumption, the rich man's luxury, if you only put on it a sufficient weight of duty." As a matter of fact, tea and sugar were, at no very distant period previously, articles of luxury almost unattainable in any quantity by the ordinary workman, or even by those in the middle classes. In the same way butcher's meat is regarded by some sections of English labourers even now as a luxury, to be only indulged in rarely and upon great occasions, since they themselves feed mainly upon bacon. But this would hardly be recognised as a valid argument for placing a duty upon American and Australian meat imported into England.

It is therefore very difficult to say what are articles of luxury, and what are not, for if they are widely used, it may be said they are not articles of luxury, but only of ordinary comfort, while if they are not widely used, then it is hardly worth while putting a duty on them, because the duty will not be very productive. On the other hand, it may be freely conceded that there are certain things which are really luxuries which are yet used widely enough to make it worth while to tax them, such as champagne and cigars. The use of tobacco and fine wines is a comfort to many people, but yet the use of them distinctly implies a respectable income, and the writer is certainly of opinion that tobacco can bear a heavier tax than is now put upon it, and that a decrease in its use would be a gain to the community in every civilised country. But, if it is conceded that certain articles of a definite character, such as the examples just given, may be regarded as luxuries that may justly be taxed, the broad principle still remains that the fewer differentiations we have the better it is for the general import trade of the country.

The fourth, and perhaps the strongest argument for free trade, is based upon the principle (4) that a simple and intelligible tariff is best from every point of view. It certainly is best for trade, because it does away with so many of the hindrances and restrictions that hinder the free flow of commodities. There is no time lost by reference to elaborate codes of regulations, or by complying with (or evading) their multifarious provisions. It is better for the finance of the country, because with a simple tariff there is far less cost in collection, and far less temptation to smugglers, and consequently far less expense in preventing illegal prac [illegible] Without undue pride on the part of Engl [illegible] it may certainly be remarked that there is a [illegible] difference in favour of the English system when compared with that of the United States with their complicated and changeable tariffs. There may be a wider difference of opinion as to the advisability of not making any distinction between foreign and colonial goods. At one time such a distinction was made in the English tariff, but it was swept away with other changes, and now no longer exists. On the other hand it must be confessed that the colonies did not seem particularly anxious to favour British goods, especially manufactures, and though now (1899) a different spirit seems to prevail, it has seemed best to English legislators to keep the tariff, so far, simple and undifferentiated.

There remains one aspect of the Free Trade question, in reference to the Corn Laws specially, which cannot be omitted in a review of the history of the movement. That is, the attitude of the landowning classes, and those connected with them, towards the subject of repeal. The landed interest has been blamed very severely, and denounced in no measured terms by politicians both of a past and a present generation, for their opposition. They have been accused of starving the masses, and taxing the people's bread, it being implied, of course, that they did so in their own interests. But, when we come to look at the facts of commercial history, we find that they were no worse in this respect than their rivals, the manufacturers, in points in which a similar principle was involved. We shall have occasion, before long, to recount the story of the agitation in favour of factory reform, and there we find the positions quite reversed. We see the landowners on the side of the working classes, and the manufacturing employers arrayed against them. The manufacturers, and even reformers like John Bright, were quite ready to sacrifice the agricultural interests for the good of the people, and quite ready to give the masses cheap bread; but when it came to giving them shorter hours, they took up a very different position.

The Factory Acts were most violently opposed by John Bright, on economic grounds; just as the Corn Law Repeal agitation was strongly opposed by the advocates of protection. But it is a mistake to think that one party was the friend of the masses and the other its enemy. Parties, like individuals, are liable to the failings of human nature, and when they see that their pockets are affected, they are liable to take a different view of the case from that which they might otherwise have adopted. The manufacturers knew that cheap bread meant low wages, and they would hardly have been human if they had not, even unconsciously, been somewhat influenced by this knowledge. They also knew—or thought they knew—that short hours meant high wages (though even high wages are by no means the evil that they used to be imagined); and the manufacturers could hardly help taking up the attitude they did against a legislation which tended to make the working hours shorter. Hence it is hardly fair to blame the landowners for their opposition to the repeal of the Corn Laws, when we consider that they helped the working classes to obtain many reforms in the condition of their labour in the factories; reforms, too, which were vehemently opposed by the very class which had abolished the taxes on food.

It is also a rather curious fact, and it has its bearing upon the question of economic progress, that many of the working classes themselves—at any rate the working class politicians—were by no means eager in their support of the Anti-Corn Law League. They did not deny that the Corn Laws were bad, but they said they were only part of a bad system. They declared that it was the whole system that must be abolished, and not merely part of it; and the means of abolishing it they thought would be by giving workingmen a vote. The working class Radicals set their heart upon a political measure, namely, the Charter, and many of them openly proclaimed that cheap bread only meant low wages. Some of them actually went to Corn Law meetings only to try to break them up, instead of supporting Cobden and his followers. Richard Cobden himself confessed that the workingman had never joined very heartily in the agitation in favour of repeal.

A Chartist leader, well known in his day (Lovett), used to say: "The Corn Laws, though highly mischievous, are only one of the effects of the great curse we are seeking to remove, and in justice we think the question of their repeal ought to be argued by representatives of all the people." Therefore he and his fellows demanded a vote for the working-man. Thomas Cooper, another working class politician, denounced the Anti-Corn Law movement as a mere middle-class manœuvre: "Don't be deceived by the middle classes again," was his cry. "You helped them to get their votes;" (that was by the Reform Bill of 1832), "you swelled their cry of the Bill, the whole Bill and nothing but the Bill: but where are the fine promises they made you? Gone to the winds, and now they want to get the Corn Laws repealed, not for your benefit, but for their own. Cheap bread, they cry; but they mean low wages. Do not listen to their cant and humbug. Stick to your Charter. You are veritable slaves without your votes." This shows that the masses had a considerable suspicion of the motives of those who offered to help them, a suspicion which was unjust, but perhaps not unnatural. The writer only mentions it here, in order to show the difficulties which beset the path of progress, in matters economic as well as political; but it may be remarked that even when they have got their votes they do not always know how to use them. But in this they do not differ much from other members of the body politic.

We have devoted some space to the questions of the commercial policy of England, for reasons given above; and we have mentioned the Corn Laws specially because they form a classic landmark, as it may be called, in the story of the economic progress of the century. They form the great argument for free trade in the hands of economists in other countries, and their results form arguments both for and against it on the part of manufacturers and agriculturists. It has been said that, even admitting that free trade has been beneficial to England, it would not suit any other country, unless the circumstances were exactly the same. Others, on the contrary, have argued that free trade has done England no good at all, but that the country would have prospered more without it, while the foreign trade would have been just as good. Be that as it may, the attitude of England is a matter of great importance in the international commerce of the world, and the causes which have led to her adopting it are interesting to those who would read the story of modern progress.

CHAPTER XXVI.

THE PROGRESS OF FRANCE.

(1) AGRICULTURE.

We have now discussed the policy of the two great divisions of the English-speaking race [illegible] the Old World and the New, and we have seen how their commercial and industrial progress has been influenced by that policy. We have also seen the effects of the Napoleonic wars upon the Continent of Europe, and the manner in which their policy also depended upon the circumstances of commerce and industry as they existed when the period of war was over. We must now observe how the various states progressed about the middle of the nineteenth century, when the time of the Napoleonic wars was still, indeed, a memory, but a memory that was beginning to fade somewhat from its previous clearness.

Looking at France, we are struck by the fact that it has been throughout the greater part of the century pre-eminently an agricultural country. It did not take up manufacturing industries, except in certain special branches, with anything like the success of England, or, in later years, of Germany. This was partly due, no doubt, to the superior attractions held out by the culture of the vine, and by the system of peasant-proprietorship in land, for after the Revolution the land came into the hands of the many, and no longer belonged only to the few. After the Revolution, the old feudal burdens were removed, agriculture was freed from many restrictions, and the right was granted to divide landed property at will, so that the land became cut up into very small holdings. We are told by some authorities that the unrestricted subdivision of the land has been a great stimulus to the progress of agriculture, and that those districts in which the division of land is most frequent are the best cultivated, the richest and the most productive in the whole country. Such, at least, is the opinion of a great German statistician, and it may be true still for certain kinds of agriculture, more especially intensive culture; but, on the other hand, progress in some of the larger operations of farming, and of stock-breeding, in which much capital and plenty of space is required, has not been so great in France as in England.

At the middle of the century, perhaps, of which time we are now writing, before the improvements in agriculture had become so conspicuous in other countries, France may have compared better, and even now, in certain forms of *petite culture,* it has hardly a rival. At any rate, in the first half of the nineteenth century, the overwhelming majority of the population lived upon the land, and derived their maintenance from it, during a period in which England was becoming more and more a country of manufactures. This may be seen from the following comparison made by a secretary to the British Embassy in Paris in the year 1865, a little later perhaps than the middle of the century, but sufficiently near to that time for our purpose. In fact, a comparison made before that time would, no doubt, have shown figures even more in favour of the agricultural element.

The whole population of France, it appears, in

1865 was rather over thirty-seven million persons, and of these no less than nineteen million—in fact, nearly twenty million—lived entirely by agriculture. Of these nineteen or twenty million, there were more than nine million proprietors, though perhaps this figure is rather high, and represents more than the actual number, because some who held land in different parts of the country were counted in more than once. But in addition to these nine million proprietors there were four and a half million farmers, and over five million labourers, besides six hundred thousand other persons, all variously employed in agricultural work.

Now, if we compare this state of things with the agricultural conditions of England at the same time, we find that the number of landed proprietors was, of course, far less in England, there being only thirty thousand of these, and some six hundred thousand farmers (who, of course, were not owners, but tenants). Even of the labourers there were only a little more than a million in England, as compared with the five millions of the same class in France. These figures only apply to England, but even if Scotland and Ireland were included, it would not alter the proportion. The comparison is again seen very clearly when it is stated by the same authority that only one person in sixty-two of those who lived by agriculture in England was a landed proprietor, while in France the number amounted to more than half the population.

It is interesting, while on this topic, to notice the enormous number of lots or parcels of land into which France was, and still is, divided. In the year 1842, when the number of proprietors was given as over eleven million, the number of parcels was no less than one hundred and twenty-six million. Even if these figures show some exaggeration, as is the case when pieces of land belonging to the same proprietor, though only divided at the time of the survey, were all counted separately, yet it shows how minute is the subdivision of the soil, and how many individuals have a direct interest in its cultivation. It is this fact which, in spite of many drawbacks, accounts for the steady prosperity of the French nation as a whole; for, when almost every person has a more or less direct interest in the land, there is much less tendency to idleness and thriftlessness.

The progress of agriculture may be seen from a set of figures, which we are able to quote, which just cover the first half of the century. The produce of wheat (in bushels) was, in the year 1789, just before the French Revolution, only ninety-three millions, but it rose in the year 1815—even in the time of war—to one hundred and twenty-one millions, and in 1848 to as much as one hundred and fifty-two million bushels. It is also noticeable that as the production of wheat increased, there was a smaller production of rye, thus indicating (we venture to assume) that the peasantry lived more on wheaten bread and less on rye bread. At any rate, from some cause or other, the production of rye had sunk to only one hundred and ten million bushels in 1848, although in 1789 it had been as much as one hundred and twenty-six million.

The cultivation of the potato is also noticeable as having made immense strides in the course of this period. From only five million bushels in 1789, the production rose to eleven times as much in 1815, and then again was multiplied by five, so that in 1848 it was two hundred and seventy-five million bushels. The superior standard of comfort of the population is also witnessed by the figures as to the proportion of meat produced for every individual of the population. In 1789, it was just over thirty-nine pounds (weight) per person, while in 1848 the proportion had risen to sixty-one pounds and a half. We can also see that considerable improvement and progress had taken place in the value of land, for in 1821 an official estimate of the value was only a little over fifteen hundred million pounds sterling (English), while, just at the half century (1851), the official estimate was more than double this, namely, three thousand three hundred million. The net profit of landed property was officially estimated in 1821 as sixty-three million pounds (English), and in 1851 at nearly, but not quite, double this, namely, one hundred and five million.

The production of wine is, as every one knows, one of the leading features of French rural industry; and here again, though the figures seem to vary a good deal, we notice considerable progress in the first half of the century. From three hundred and seventy-four million gallons in the year 1789, the production rose to seven hundred and seventy million in 1815, and to nine hundred and twenty-four million gallons in the year 1848. The variations in the price of wine have been more noticeable in recent years than in former times, and it has shown a tendency to rise. Thus, from 1806 to 1820, the price of a measure of twenty-two gallons averaged £1, 6s. 8d.; then in the next ten years the average rose to £1, 12s. 6d., but it declined again between 1831 and 1840, and this decline continued till 1850, the average coming out then at £1, 5s. 10d. But after this the price began to fluctuate to a much greater extent, for in 1851 it was only £1, 3s. 3d., while in 1857 it was as high as £2, 11s. 2d.

These fluctuations depend, of course, upon the vintage, which seems more liable to vary in the case of the vine than in any other crop. The excellence or badness of the harvest has always been a most serious matter for the French husbandman, because the culture of the vine is so widespread in every part of the country. There are only nine "departments" in which the vine is not cultivated to a greater or less extent, and it is estimated that about two million people make their living out of it. The departments best known in connection with vine-growing are some fourteen in number, including Herault, Gironde, Charente, Lower Charente, and Gers.

A curious feature of French agriculture, and one that may be mentioned here, is the cultivation of truffles. It is a very ancient industry, and very valuable; indeed, if it were not so valuable, it would not be worth mention in this place. But when we consider that each pound of truffles is worth to the grower at least eight shillings, and that the price to the consumer is often three or four times that figure, it is easy to see that a good crop represents a very important contribution to the agricultural wealth of the country. In the winter of 1869–70, the total crop was computed at three million pounds (weight), so that at the prices given above this means a very considerable total value. Truffles only seem to grow in the middle and south of France, and some departments produce as many as two hundred thousand pounds (weight); while their cultivation has been greatly assisted by the adoption of more systematic methods than were formerly used.

Under the method introduced by M. Ravel, plantations of oak are laid out and the young tubers, before they are ripe, are placed in loosened soil and covered up. It is found that they grow best in thin and chalky soil, somewhat impregnated with iron, and the tannin which is contained in fallen oak-leaves also seems to have a beneficial effect upon them. At any rate, truffles grow best in ground among oaks of some eight or ten years old, and often have a peculiarly piquant aroma when grown under trees of some age. The best, as most people know, are grown in Perigord and Lot, and reach the weight of one and a half to two pounds. They ripen in the winter, and easily bear some five or six degrees of cold, but are usually dug up after the first frosts. It is well known that dogs and pigs eat them greedily, and can discover their whereabouts by their smell, so that these animals are frequently used to show where they are hidden under the earth.

The export trade in truffles began as far back as 1770, as a regular branch of commerce, though no doubt epicures procured them at a distance before then. About a hundred years later, in 1867, the export amounted to one hundred and forty thousand pounds weight, chiefly to Russia, England and America; but the trade has tended to increase ever since the beginning of the nineteenth century. The above account is taken from an interesting work by a German statistician.

CHAPTER XXVII.

THE PROGRESS OF FRANCE.

(2) MINING AND MANUFACTURES.

It will have been apparent to the reader of the foregoing description of the progress of agriculture in France, that this is essentially an agricultural country; and although the French have attained considerable reputation in manufactures, still the latter industry has never asumed the vast dimensions which it reached in England, or perhaps even in Germany. Certainly in the first half of the nineteenth century, manufacturers made much less progress in France than they did across the Channel, and that for obvious reasons. The most important reason was, no doubt, the disturbance caused by the continual wars in which France was engaged, and by the internal troubles and revolutions which rendered the paths of industry more precarious than they otherwise need have been. But even more important a cause was the fact that France did not possess a very large supply of coal, and even the supply that she did possess was not at first worked to so great an extent as was necessary for advanced progress in manufactures.

It is needless to point out how necessary a large supply of coal has become to all forms of modern manufacturing industry, and how largely the industrial supremacy of England has depended upon her coal mines. The fact that the French have been rather backward in developing what resources they possessed in regard to coal, is therefore sufficient to explain her comparatively slow progress in manufactures, at least in the period of which we are now speaking. On the other hand, since the middle of the nineteenth century, the production of coal in France has been rapidly increasing, and though the coalfields of France cannot compare in extent and importance with those of England, America or Germany, their management is said to be very well organised and the realisation of the produce has been very satisfactory in late years.

The progress that has been made can be seen from the fact that in 1789 only a quarter of a million tons were mined, and as late as 1830 the home produce was under two million tons (being in fact 1,800,000). Even in the year 1857, it was only four and a half million tons. But from the half century, great developments were made, and in even the next ten years the produce was nearly doubled, being in 1860 over eight million tons. In later years, though it is rather anticipating the future chapters of this work, it may be said that the production of coal has reached a comparatively high level, and even in the period 1875–80 the average annual output was over sixteen million tons per annum.

It is a very curious fact, however, that the output of the individual French miner is by no means to be compared to that of his English rival. Whether it is because the physique of the English mining class is higher, or because they enjoy a better standard of comfort, certain it is that, whereas the average output of the French miners in the Pas de Calais or the Nord departments is only one hundred and fifty-two tons per annum, that of a Durham miner is actually more than double this quantity, being three hundred and thirty-three tons per annum, for one man.

At the same time, it must not be imagined by any means that the manufactures of France were not, even in the first part of the nineteenth century, of considerable importance as far as they went. The textile industries—cotton, woollen, and silk goods, as well as linens—have always been comparatively flourishing. For various reasons the French were led to excel in the quality and style of their goods, especially because at the time when the use of machinery was being so rapidly and wonderfully developed in England, and England was therefore able to undersell France in the foreign market, it became absolutely necessary for French manufacturers to seek other methods than mere quality of production in order to cope with this competition. Moreover, during the Napoleonic period, when France was the mistress of so many European countries, she had been able to force many of her products upon the markets of states which were more or less subject to her influence; but when those days were over, she found herself once more confronted in these very markets by a most formidable competitor. Yet such was the energy of the French character, and the taste and skill of her artisans that, even in 1825, she had already made up much lost ground.

The result of this progress in manufactures was a considerable accession of wealth to the country, and even after the terrible years of war, the French nation recovered so quickly that it has been computed that no foreign state possessed in 1828 so large an amount of specie as did France. It is said that this access of wealth by means of success in manufactures was greatly aided by the fact that in 1825 the prohibition upon the export of machinery from Engla was removed, so that French manufacturers we able to obtain machines from England and copy them for their own use. Many people have argued that it was an extremely unwise policy to allow this export to go on, and that it would have been best t keep for England the machinery that was invented by her inventors; but, on the other hand, it would probably have been impossible to have kept the secret of inventions for very long, and in similar cases prohibitions have not always been successful. It is noticeable that, from an early period of the manufacturing industry, the arts of bleaching and dyeing of goods were conducted more successfully in France than in England. The reason is to be found partly in the more scientific methods employed by the French—for the English nation has generally lagged behind foreigners in the matter of scientific education—and partly also in the natural artistic taste of the French, who have always excelled in this particular.

Of typical French manufactures, we may certainly mention the silk trade, and devote a short space to the progress which it made at this time. Silk goods are, of course, specially destined for the use of the richer classes, and the success or failure of the trade depends very largely upon the fashion of the hour. It depends also upon the wealth of the country to a greater extent than does the trade in woollen or cotton goods. Consequently it is a trade liable to severe fluctuations, especially at a time of political or other disturbances. Thus, in the revolution of 1789, the silk industry suffered severely, while in 1793, when the town of Lyons, one of the chief seats of manufacture, was taken by the forces of the Republic and many of its inhabitants massacred, the trade was temporarily destroyed.

Napoleon I gave an impetus to silk weaving by requiring official costumes to be made of this material. "But neither fashion nor imperial decrees developed the capabilities of the silk manufacture," says Dr. Yeats, "one hundredth part so much as the use of the Jacquard loom, so named after its inventor, and soon employed in further improved forms, not only for silk, but for all kinds of figured tissues. There were in 1875 more than twenty thousand looms in Lyons, giving rise to a secondary but very important trade in the construction of their machinery."

From the same authority we learn that a prosperous period for the silk industry began in the year 1822, when the value of the silk exports to England and the United States was ninety-nine million francs. From 1846 to 1852 the home produce of raw silk amounted, on an average, to twenty-five thousand tons of cocoons, yielding two thousand tons of silk, worth one hundred and twenty millions of francs. The value of the silk exports about this time rose from one hundred and forty million francs in 1845 to one hundred and sixty-five million in 1847, and to one hundred and eighty-one million in 1849, while it was estimated that this only represented two-thirds of the total value of silk goods produced, since one-third was retained for home use in France itself.

It is extremely interesting to notice, in the days when all foreign silk goods were prohibited from import into England in hopes that the English manufacturers in Spitalfields might be protected, how great was the illicit traffic carried on by the smugglers. The statesman to whose attempts to procure greater freedom of trade we have already alluded, namely, William Huskisson, once remarked in a speech upon this subject that the whole amount of smuggled silk seized by the English custom house authorities did not exceed five thousand pounds' worth per year. But when he attempted to obtain some idea of the quantity of silk goods actually smuggled into England, he found that the value of those goods actually passed through the French custom house for export to England was from £100,000 to £150,000 per annum, to say nothing of the far greater supply of silk goods which never went through the French custom house at all, but were simply smuggled out of France and into England without paying duty in either country. "To such an extent is this illicit trade carried on," he declared, "that there is scarcely a haberdasher's shop in the smallest village in England in which prohibited silks are not sold, and that in the face of day, and to a very considerable extent." It is therefore evident that if this was the case in regard to England, there must have been also a very considerable amount smuggled into foreign countries, so that the figures for French silk imports given above do not represent all the goods that actually went out of the country; and in consequence the amount manufactured must have been even larger than was stated.

The woollen manufacture also attained considerable dimensions, and a fair quantity of woollen goods was exported. The progress in this branch of industry may be seen from the statement that in 1788, just before the Revolution, the value of the exports was about twenty-four million francs; but in 1838 it has risen to eighty million francs, and in 1865 to as much as three hundred and ninety-six millions. This shows a very rapid growth just before the middle of the century, and here again the French gained a good position in the trade owing to the finer qualities of their goods, more especially in the way they were dyed and the lustre given to them in the process. The towns of Rheims and Amiens became noted for their trade in the finer kinds of woollen cloth, and so also were Sedan and Louviers; and in more recent times bitter complaints were made by British manufacturers of the severity of French competition in this department of trade.

Then, again, among other textiles, France has always had a high reputation for linen goods. For centuries flax has formed an important crop in Normandy and Brittany, and till quite recent times the women spent much of their time in spinning it. The main seat of the linen industry, however, was, and is, to be found on the boundary between France and what is now Belgium, though at one time the district was known as French Flanders. There are found many of the towns which have been associated with this industry for many hundred years, such as Cambrai and Courtrai and Valenciennes, the latter being also famous for its lace. The textile industries of this district were also greatly aided, in the earlier part of the nineteenth century, and since, by the fact that all these towns are on or near the great Franco-Belgian coalfields which extend for many miles along the north-eastern boundary of France.

The linen exports of France have, therefore, always been celebrated; and though, like most other branches of industry, the linen trade suffered severely during the period of revolution and war up to the year 1815, they gradually regained their former position, and even excelled it, so that in the year 1859 the export of linen yarn alone amounted to fifteen million francs in value. At the same time, however, the French had to suffer a good deal from British competition, especially from Scotch manufactures, and when the commercial treaty of 1860 was negotiated between England and France (as to which we shall have something to say later), the outcry made by those interested in the French linen trade was exceedingly loud; though, fortunately for them, the treaty did not do them so much harm as they had imagined that it would. In fact, four years later (1864), the export of French linen yarn had increased to over twenty-four million francs.

As regards cotton manufactures, a very important branch of textile fabrics, France during the first half of the century, and indeed, for the whole of it, remained inferior to England, but more especially in the earlier periods. There were several disadvantages which militated against the complete success of the French cotton trade, the chief of them being that for many years the machinery used was not equal to that of English manufacturers; and then, again, as we have already mentioned, the supply of coal in France was less easily obtainable than in England. Hence the cost of production was greater, and the manufacture could not make the same rapid progress as across the Channel. Still, between the years 1815 and 1840 the production of cotton increased threefold, while even the export figures showed an increase of more than double before 1850. Thus in 1836 the value of cotton exported from France amounted to sixty-six and a half million francs, while in 1850 it was valued at one hundred and sixty-five million. The chief seats of the cotton manufacture were and always have been more or less the same as those interested in the linen trade, especially the old city of

Rouen, which has been called the Manchester of France.

It is rather interesing to notice that so early as 1833, however, there were grave fears on the part of English cotton manufacturers that French competitors would endanger the English trade, and the statement was made in the House of Commons that the French cotton manufacture had increased in the ratio of three hundred and ten per cent between 1812 and 1826, while in England the ratio was only two hundred and seventy per cent. This statement was correct as far as it went, but it omitted to take into account the special causes which had contributed to the growth of the French trade. In 1812, and for some years previously, it was hardly possible to import cotton wool into France, and its price was excessive. When, therefore, the manufacturers got raw cotton after the return of peace at ordinary prices, it was only likely that the production should increase; and as, at the same time, all foreign-manufactured cotton goods were excluded, it is not surprising that, for a time, the home manufacture of them took a new lease of life.

The progress that was made afterwards was due, not so much to gaining a foreign market for exports, as to the greater demand which arose at home. The wealth and population of France both increased after the Napoleonic wars had ceased to harass the country, and to drain it of men who might have been employed in useful industry. But as, for a long time, the French Government continued to impose duties on raw cotton, and also on raw iron which was needed for machinery, it was impossible for French manufacturers to make such remarkable progress as to become formidable competitors in the export trade.

Where the French excelled, however, was in the excellence of their dyes and designs, and these have always caused French goods to hold a high place in the world's markets.

CHAPTER XXVIII.

PROGRESS IN FRANCE.

(3) FRENCH COMMERCIAL POLICY.

We now come to a very important point in the history of economic progress in France, and it can hardly be considered as anything but a step in advance. We refer to the commercial treaty with England in 1860. To understand it sufficiently we must look back to the condition of France after the war which terminated in the year 1815. The Royalist party was then in the ascendant, and it showed a strongly protectionist spirit, as was shown by the Corn Laws passed in 1819 and 1821, which established a complicated sliding scale on the English model. It must be admitted, however, that France had more cause than England to frame a series of Corn Laws, because she was able to produce almost sufficient for her population, and therefore the people did not feel the effects of the prohibition of foreign corn so severely as they did in England. Soon after this came a period of industrial and commercial depression, the result of which on the tariff was to cause an increase of duties on foreign sugar, flax, wool and many other articles. In 1826 the duty on wool was still further increased, and that on steel went up to one hundred per cent. The tariff remained rigidly protective throughout the period of Orleanist rule, and during the decade 1840 to 1850 there were in several cases increases of the already high duties.

But with the advent of Napoleon III and the Second Empire, the example of England seems to have made some impression upon leading French statesmen and economists, and between the years 1853 and 1855 some duties—those on wool, iron, steel and coal—were lowered, while several raw materials were allowed in free. In 1856 a proposal was made to remove all prohibitions on imports, except for protective duties on cotton and woollen goods, but it aroused so much opposition that it had to be withdrawn; and the outlook did not seem particularly favourable for a repetition of any such schemes of tariff reform.

According to Mr. Morley's *Life of Cobden,* it was in the summer of 1859 that the French statesman, M. Michel Chevalier, paid a visit to England which had very remarkable economic results. It so happened that, just about that time, the orator John Bright made a speech in the House of Commons, in which he incidentally asked why, instead of wasting the national substance in military armaments, England did not approach the French Emperor and try to persuade him to allow his people to trade freely with the English. After reading this speech, M. Chevalier was inspired with the idea of a commercial treaty between England and France, and wrote to Cobden upon the subject. Shortly afterwards he learned that, for family reasons, Cobden had decided to pass a portion of the winter in Paris, and at once determined to take advantage of such a favourable opportunity. He urged Cobden to try to convert the Emperor Napoleon III to the doctrines of Free Trade, just as he had previously converted his own fellow-countrymen, or at least to such an approximation to a Free Trade policy as the exigencies of the situation in France would allow.

The proposal made so strong an impression on Cobden that he grew eager, his biographer tells us, to discuss them "with the only statesman in the high official world with whom he felt conscious of deep moral and political sympathy." He therefore paid a visit to Hawarden, and saw Mr. Gladstone. Both these economists were well aware of the objections which may be made to commercial treaties upon economic grounds; and they both felt it to be perfectly true, if economic rules were never to be broken under any circumstances, that it was the business of English people to look to their own tariffs and to abolish any duties on French goods without making any stipulations in return. But they also saw that, in actual practice, economic rules must constantly be modified, and neither Cobden nor Gladstone could resist the emphatic assurance of M. Chevalier that in no other way could the French tariff be altered than by a diplomatic act such as a treaty. The Emperor himself, in spite of his absolutist system, was practically powerless to move unless the English Government were able to help him by a corresponding action on their side.

Hence it came that Cobden proceeded to Paris, bearing the tacit but informal authority of the British Government, to put himself into communication with the French Emperor and his ministers upon this important subject, and to see what he could do towards imbuing them with Free Trade ideas. In October, 1859, therefore, the hero of the Corn Law Repeal went to Paris, and met M. Chevalier and another minister, M. Rouber, at dinner. But so great was the fear of the French ministry that anything should get abroad about the object of Cobden's visit and thus arouse a storm of opposition, that the dinner was planned "with as much secrecy and discretion as if they had been three housebreakers under the surveillance of the police." It was soon evident that M. Rouber was willing to agree to the main points of Cobden's proposals, but everything depended on the Emperor. Fortunately an interview with Napoleon III was soon secured, and Cobden had an interesting conversation with him.

From Cobden's own account of it, we see the line of action which he advised the Emperor to take. "He then inquired," says Cobden, "what I should advise him to do in regard to the French tariff. I said I should attack one article of great and universal necessity, as I had done in England, when I confined all my efforts to the abolition of the Corn Laws, knowing that when that *clef-de-voûte* was removed, the whole system would fall. In France the great primary want was cheap iron, which is the daily bread of all industries, and I should begin by abolishing the duty on iron and coal, and then I should be in a better position for approaching all the other industries; that I would, if necessary, pay an indemnity in some shape to the iron-masters, and thus be enabled to abolish their protection immediately—a course which I should not contemplate following with any other commodity but iron and coal. On my giving him a description of the reforms effected by Sir Robert Peel, and the great reverence in which his name is held, he said: 'I am charmed and flattered at the idea of performing a similar work in my country; but,' he added, 'it is very difficult in France to make reforms. We make revolutions in France, but not reforms.'" The last remark shows that Napoleon III understood very thoroughly the nature of his subjects.

The kind of opposition which the Emperor had to contend with may be seen from the violence of the feeling aroused in France when he first intimated, in a public letter, his intention of promoting some approach to greater freedom of trade between France and England. The Protectionists of France hastened to Paris and appointed a committee to sit there permanently. A great industrial personage in France told Cobden that his own nephew had refused to shake hands with him, because he (his uncle) was a Free Trader. One of the Orleanist party declared, at a dinner at the Political Economy Club, at which Cobden was present, that to establish Free Trade in a country where opinion was not ripe for it was nothing less than gross oppression.

"You may form some idea of the position," Cobden wrote to Gladstone, "if you will imagine yourself in England in 1820, before Mr. Huskisson began his innovations in our tariff, with this serious disadvantage on the side of the French Government, that while the Protectionists have all the selfishness and timidity which characterised our 'interests' at that time, they arrogate to themselves an amount of social and political importance, which our manufacturers never pretended to possess." At one time, a hundred and twenty cotton spinners assembled in the courtyard of the Minister of the Interior, and tumultuously clamoured for an immediate interview. However, in spite of all this outcry, both of private and public personages and of the press, the treaty was at last formally drawn up and ratified, and commerce between England and France was placed upon a less prohibitive basis.

In the negotiation of this treaty, it is well known that Napoleon III was influenced largely by political considerations, rather than by the arguments of even so famous an economist as Cobden. At the same time, this treaty is remarkable because, for the first time in modern European history, the notion of reciprocal advantages rather than the balance of losses by mutual concessions first found due prominence. The principal provisions were as follows: On the French side, prohibitive duties were to give way to protective duties of a fairly moderate amount. On all the staples and material articles of British manufacture —such as woollen, cotton, silk and linen goods, jute, hemp and manufactures of iron and other metals, tools and machinery, leather manufactures, wood, glass and earthenware, as well as on yarns, coal and other raw materials—the duties were to be so much reduced that the maximum *ad valorem* charge was not to be more than thirty per cent, which was to be reduced in three years to twenty-five per cent, while the duties, where practicable, were to be changed into specific duties. Thirty per cent was to be the maximum, but the actual amount of duty paid on each article was left to separate negotiation, and was finally in most cases fixed at much below the maximum.

On the part of England, it was agreed to abolish at once all the remaining import duties on manufactured goods; and also not to levy a duty on coal or to prohibit its export. The most important concession to French interests, however, was that England agreed to make great reductions in the duties on wines and brandy, though other nations were placed on the same footing. Both parties agreed to insert in the treaty a "most favoured nation" clause, by which the contracting parties bind themselves to give each other whatever privileges may be given to any third power.

The treaty was to remain in force for ten years, and then to continue in force from year to year, unless "denounced" by either party. As a matter of fact, it lasted till 1872, when it was denounced by the French Government under Thiers, though it was renewed next year. It was practically given up altogether in 1882, but as a substitute the French Government passed a law giving to England the benefits of the "most favoured nation" arrangement.

We have considered this treaty at some length because it was practically the inauguration of a new line of policy in Continental commercial relationships. It meant, not indeed freedom of trade, but a much less amount of restriction than had formerly been in vogue. It initiated a more liberal policy which set an example followed by many other European states, so that in time they were gradually "bound together by a network of treaties, securing a lower scale of duties"; and thus, though Free Trade did not become by any means an accomplished fact, nevertheless the Free Trade spirit made great strides.

Nor were the reforms of the French Government confined to those effected by the Treaty of 1860. Some of the more flagrant items of the protectionist system were removed or altered. Thus, for example, the Corn Laws, already alluded to, with the sliding scale arrangement as in England, were in 1861 completely repealed, and a nominal fixed duty of sixty centimes per hundred kilogrammes, equivalent to only threepence per hundredweight English, was imposed instead. Under these French Corn Laws, the whole of France had been divided into different regions, according to the supposed cost of producing wheat, and of course this division had been productive of great inconvenience and confusion, so that their abolition was felt as a great relief in many quarters.

" The broad effect of these measures was the transformation of the very severe system which the Restoration had established into one of low duties and moderate protection on manufactures. The economic result was a large increase of both imports and exports, the former of which rose from 1641 millions of francs (sixty-five million pounds English) in 1859, to 3153 million francs (or one hundred and twenty-six million pounds English) in 1869, while the latter grew from 2266 million francs (over ninety million pounds English) in 1859, to 3057 million francs (or one hundred and twenty-three million pounds English) in 1869—that is, a total increase in ten years nearly approaching one hundred million pounds." Another very clear statement of the immense growth of French trade after this treaty is the fact that, whereas the exports from France to England were in the year 1838 only worth some five million pounds of English money, they were valued in 1864 at twenty-five million pounds —a five-fold increase. Thus we see how great has been the commercial progress of France in the first half of the nineteenth century.

CHAPTER XXIX.

PROGRESS OF GERMANY.

(1) THE CONSOLIDATION OF GERMANY INTO THE ZOLLVEREIN, AND ITS EFFECT ON PROGRESS.

When we come to the history of the progress of France's great neighbour, Germany, we are at once met with circumstances and conditions very different from those of France. With all her troubles, both internal and external, France was, and is, one country, forming a consistent whole, and subject to the same laws and regulations. But till the great Franco-German war of 1870, Germany was merely a name for a large number of states, some large and many small, whose interests were often divers, and who were frequently at variance with their neighbours. We have already seen in a previous chapter how great was the hindrance to industrial and commercial development caused by this unfortunate state of politics, and it is necessary to emphasise again what was there stated. But we also saw that the evils of a multiplicity of small states were overcome to some extent by the formation of a *Zollverein*, or Customs Union, which for commercial purposes made these states into one country. The history of progress in the German states becomes, therefore, more or less the history of this *Zollverein* and its variations; and we must now devote a few words to the growth of this institution.

We have seen that up to about the year 1834 Saxony and the South German states had mostly given in their adhesion to this Union, and later Baden and Nassau, and, in 1836, the " free city " of Frankfort-on-the-Main also joined it. Five years later Brunswick (1841) and then Luxemburg were added, and this completed the League, which at that time included an area of some 175,000 square miles English, with a population of twenty-eight million persons. It did not, however, include Austria, while the Hausa towns, or free cities of Bremen and Hamburg, also preferred not to become members of the Union. The arrangement made for customs was that every state collected the dues on its own frontier, and charged the cost of collection to a common fund; but the Union did not commend itself to every state, since many of the smaller ones were afraid lest they should lose their individuality in so large a combination, and with all the disadvantages of isolation, they yet preferred to remain free.

The state which pursued the most enlightened policy was Prussia, which made certain sacrifices in order to induce others to join, agreeing, for example, to take only five-elevenths of the tolls instead of the three-fourths due to her. In the long run Prussia certainly got the best of the bargain, for she obtained from the outset a sort of hegemony which time has developed into a very real leadership, and perhaps the fears of the smaller states have proved not altogether without foundation. Still, the general result of such a Union as this cannot have been otherwise than beneficial, when we consider that at the end of the eighteenth century there were no less than two hundred and eighty-nine separate states and sixty-one " free cities," the latter being practically independent states confined within the limits of a single town.

A fair criticism on the Union, however, is that made by Dr. Yeats, who remarks that "this great measure of a customs union is to be regarded less as a work of high-minded statesmanship than as a skilfully devised piece of commercial machinery to economise the collection and swell the sum of the revenues of Germany." One effect of it was seen at once in the imposition of severely protective duties on all foreign manufactures, though the raw materials for home manufactures were wisely admitted free. The result was that England and France did not regard the Zollverein with much favour, although from a political point of view its benefits to the various German states were very great. A curious feature of the Union was the position of the Kingdom of Hanover, which, of course, at that time belonged to the Crown of England, and which was in consequence regarded by the Union as a "foreign" state. Goods coming from Hanover were therefore subject to a heavy tariff, which proved very disastrous to its trade with other states. Austria was also regarded as a foreign kingdom, but as it was so large a country, it did not suffer so much as Hanover, which was too small to cope with the influence of its larger neighbour.

The states which profited more by belonging to the Union were Hesse Cassel, Hesse Darmstadt, and the Palatinate. It is also due to the Union that tobacco culture took so firm a root in certain parts of Germany, since foreign tobacco was practically excluded by very prohibitive duties. On the other hand, the two free cities of Hamburg and Bremen lost a good deal of trade through not belonging to the Zollverein, though, being the natural outlets to the sea for all north-western Germany, they could not fail to do a certain export and import trade. But it is said that they lost a great portion of their wine trade because of the prohibitive tariff placed on foreign wines by the Zollverein in order to encourage the growth of wine within its limits. In the same way the cultivation of beet sugar was greatly encouraged by the heavy taxes imposed on foreign sugar, so that here again Hamburg and Bremen lost the import trade in sugar which they had formerly enjoyed. The beet-sugar and tobacco-growing industries became at this time very important, and we will give further details about them shortly.

The course of the Zollverein did not, however, always run smoothly, and the political disturbances of the years 1848 to 1853 caused considerable trouble to its members. The trouble came partly from Austria, who was anxious to establish a prohibitive system throughout Germany, and maintained that Prussia was intending to absorb all the minor German states. The charge was not altogether baseless. The question was raised in 1849, when Austria expressed a wish to form a larger Customs Union for the whole of Germany and for itself, and at the same time to include other states of Central Europe within it, so that there should be a market for at least seventy million consumers. To this proposal Prussia replied that Austria must first abolish her own protective tariff, and also notified to the constituent states of the Zollverein that the old arrangements must come to an end at the close of the year 1853. Prussia was ready, however, to form a new treaty, and had indeed already entered into commercial relations with Hanover, Oldenburg and parts of Brunswick.

But before the old arrangement could come to an end, Austria surprised the other states by abolishing her system of prohibition and formally united with Hungary in making a protective toll-system, inviting the other German states to join her. This action of Austria in inviting other states was strongly resented by Prussia, which entirely refused to enter into negotiations, and declared that it must consult the former constituents of the old Union. The result of all this was the rise of a jealous feeling against Prussia on the part of the smaller states, who, at a special congress held at Darmstadt, notified Prussia that they would proceed to discuss the admission of Austria (and also of Hanover) into their Customs Union, stating that they had as good a right as Prussia to enter into negotiations with other states.

After some further incidents and negotiations, Prussia took the step of announcing that if the other states could not fall in with her views, she would stop the Zollverein altogether. Naturally this declaration caused universal excitement throughout Germany, and the commercial classes were considerably fluttered. But ultimately Prussia gave way, and it was arranged that at the same time as the Zollverein arrangements were renewed, a treaty should be made with Austria. Then the other states agreed to recognise the arrangements which Prussia had made with Hanover, so that, in the end, from January 1st, 1854, the Zollverein included all the states of Germany, with the exception of Holstein in the north, and the free cities of Hamburg and Bremen, while Austria, though not formally included in it, was practically brought into very close relationship by the formation of a special arrangement.

The result could not but be of advantage to trade and commerce, for the area and population of the Union was now greatly enlarged, and the market correspondingly widened. It now included over thirty-eight million people, and industry and manufactures increased with much greater rapidity. The war between Austria and Prussia in 1866, which is familiar to students of German history, placed Prussia in a position to dictate her wishes even more successfully than before to the other states, and by the treaty of Prague on 23rd August, 1866, it was determined that Austria should withdraw from Germany on condition that Prussia should enter into a closer union with the states lying north of the River Main, while four of the South German states should have an "international independent existence" and Luxemburg should withdraw entirely from Germany. The further events of the Franco-Prussian war of 1870 only served to consolidate still more closely the various states of the German nationality, and to weld into a united whole what was but a loose combination of separate individualities. The German Empire now became a reality and not merely a convenient geographical definition of a number of nations, and the result was that trade and industry made great advances.

CHAPTER XXX.

PROGRESS OF GERMANY.

(2) SOCIAL CONDITION AND AGRICULTURE UP TO ABOUT 1850.

It is noticeable that all these changes in economic and in political policy, although in the long run they brought about a better state of industry and commerce, yet caused for a great part of the century considerable distress and uneasiness among the industrial population. This, coupled with the severe military regulations which compelled so many men to serve in the army, was the reason why we find that emigration formed at one time so important a feature of German social history. The fact of this emigration shows that the social condition of the people cannot have been so comfortable as it might have been, although, of course, some allowance may be made for the fact that the Teutonic races are evidently more inclined to wander forth to seek their fortunes abroad than are their neighbours, the French. France has never sent forth very large numbers of emigrants at any time, partly because the social condition of her people has attached them very closely to their own land, partly because France, from various causes, never seems to have felt the pressure of over-population in the same way as some other countries, and partly owing to the dislike of the French for foreign residence.

It cannot be said that the pressure of over-population was the cause of the stream of emigration which poured westwards from Germany, and it is indeed doubtful whether at any time over-population has ever caused emigration to the extent which is commonly supposed. Emigration has often been due to quite other causes. Be that as it may, however. it is certainly the fact that, with the exception of Ireland, no European country in the nineteenth century has witnessed the amount of emigration that Germany has.

If we look at the dates when the movement for emigration was most marked, we see that it has depended more upon social and political causes than any others. The first great emigration from Germany to North America took place as far back as 1780 from the Palatinate and the state of Wurtemburg; the next and still larger movement occurred in the winter and spring of 1817–1818, owing to the bad harvests, which caused widespread distress among the peasantry and all the industrial classes. According to the best statistical information, there does not seem to have been any very great movement just after this, for the number of emigrants from Germany to the United States between the years 1820 and 1830 was only between seven and eight thousand. But in the next decade the number increased very considerably, rising to one hundred and fifty-two thousand. This increase continued. From 1841 to 1851 the number was over four hundred thousand, while from 1851 to 1860 it did not fall far short of a million, the exact figures being nine hundred and fifty thousand.

From the middle of the year 1850 the number of emigrants from Germany has exceeded those from Ireland, and though about the year 1855 there was a lull, owing to unfavourable reports from the United States, there was afterwards yet another increase. The largest outflow of emigrants in any single year was in 1854, when no less than a quarter of a million went forth to seek their fortune in a new land. Again, in 1857, over one hundred and fifteen thousand went out. Moreover, the figures we have been able to give here only refer to the emigration to the United States; those going to other countries are not included. Yet they must amount to a considerable number, for, although the majority went to the United States, yet a fair number went to British North America, to Australia, California, and even South America.

According to one authority (Gäbler) the number of Germans who left their country in the first half of the century, between 1819 and 1855, was not far short of two millions (exact number, 1,799,853), and it is certain that in the twenty years from 1847 to 1866 there landed in New York alone more than one million and three hundred and forty-five thousand Germans. "If it be taken into consideration how many Prussians and Austrians are not included, how many emigrants wend their way to other lands than those named, and that the emigrants are, as a rule, the young and vigorous of the population, it will be seen how great the loss is to the country."

At the same time we must not attach too much importance to these figures. However great the emigration was, there were still more people left behind, and only a fraction of the population could have the means or the opportunity of leaving the country. We find that in spite of the internal troubles of the German states, there was a good deal of real economic progress in the middle of the nineteenth century; and although it is rather difficult to give exact facts and figures, because of the multitude of separate states, provinces and kingdoms dealt with, we are nevertheless able to form some idea of what progress was made by taking the statistics of the states included in the Zollverein. But in doing this, some caution is necessary, because the area of the Zollverein was not always the same. At one time it included more and at another perhaps less of the general total of German states.

It is therefore useful, when noting any figures of trade, to see the area over which they extended, and the population which was included in that area. Thus in the year 1828 the Zollverein only included 111,519 square miles (English), with a population of some thirteen millions. But in the year 1837 we find the population is twenty-six millions, or double that number, though the number of square miles has only increased by sixty thousand to the total of 171,804 square miles. A very fair comparison of the growth of population, however, can be made after the year 1852, for the area remained stationary at some 191,804 square miles, while the population, with the same area, increased from thirty millions in 1852 to thirty-five millions in 1864. Twelve years later, in 1876, the population had increased to well over forty-two millions, although the increase of area was only comparatively small, rising from 191,804 square miles to 210,493 square miles.

Thus we see that the population of Germany as a whole has been steadily increasing during the middle and latter part of the century, and this is due to a greater amount of social comfort and a corresponding amelioration of the conditions of the people. In the same way, the revenue of the Zollverein has increased from about a million and three-quarter pounds sterling (English) in 1830 to over three million pounds in 1841 and six million and three-quarters in 1873. Even making allowance for the increase of area, this shows very considerable commercial and industrial progress.

While mentioning the revenue thus derived from the customs we may glance for a moment at the chief articles of import which appear in the customs list. So late as 1872 coal formed an important item, for, although Germany possesses considerable coalfields, they do not always yield coal of such good quality as the English mines; nor were they, till more recently than the period with which we are now dealing, worked so efficiently. Hence a good deal of coal was imported then, and is imported even now. Raw cotton was a very large import, for, as we shall see later, the cotton manufacture in Germany made great strides; but another import of great magnitude was grain and flour, which in 1872 were valued at some thirteen million pounds sterling (English). Pig iron and metal wares were also prominent, and also yarns and wool, though woollen cloth only formed a small item. A good deal of tobacco also came in, in spite of the promotion of tobacco cultivation at home, but, on the other hand, there was not much sugar, most of that consumed in Germany being made from beet-root.

The exports show a good deal of coal, mostly to Austria, France and Russia, but not much manufactured cotton or woollen cloth, till after the war of 1871, for German manufactures have only come to the front in a comparatively recent period. But grain and flour were exported to a large extent, and so was pig iron. The explanation of the fact that some of these articles were both imported and exported in large quantities is to be found in the size and geographical situation of Germany, which make it more easy to supply certain districts from foreign countries than to send home produce from one district to another. The east and the west of Germany are so far apart that it is often more advantageous to procure goods from (say) France or Belgium for consumption in the Rhine basin than to send for them from the western provinces.

Among the industries that have taken a prominent place during the present century in Germany, and have made much progress, are those of beet-sugar making and tobacco growing. The first of these has made very considerable strides, and as an item of economic progress is well worth attention. The first sugar-boiling establishment in Germany is said to have been founded at Augsburg as far back as 1573, but this, of course, was not for beet-sugar, but for foreign sugar. The manufacture of beet-sugar owes its origin to a chemist named Marggraf, born at Berlin in 1709, though its later practical development is associated with another chemist, of Genoese extraction, named Achard, who was born in 1764, and thus did not begin to do much in this way till comparatively late in the eighteenth century.

The great stimulus to beet-sugar was, of course, given by the decrees of Napoleon I, mentioned in a previous chapter, by which, as far as possible, all foreign sugar was excluded from the Continental market, because most of it came from Britain's West Indian colonies. By thus setting up a rival article of trade, Napoleon I succeeded ultimately in doing an immense amount of damage to West Indian and English interests, nor have the effects of his action been diminished by course of time. The production of beet-sugar has gone on increasing steadily, being greatly aided by the progress of chemical science, while the West Indian and other foreign sugar has often suffered from serious difficulties, some almost unavoidable and others perhaps removable by greater energy and adaptability.

At any rate, in developing this rival manufacture of beet-sugar, instead of cane, Germany has taken a prominent and, from a German point of view, a very successful part. In the year 1836–37, in the districts embraced by the Zollverein (though, of course, the Union was smaller then than later) the amount of beet-sugar produced was only some half-million hundredweights (English), the exact figure being 506,923 cwts.; but less than twenty years later the figures of production became something enormous. The year 1853–54 saw well over eighteen million hundredweights produced, the next season over nineteen million, the next (1855–56) over twenty-one million, and before the "fifties" were over, the production totalled (in 1858–59) more than thirty-six million hundredweights.

But in the latter half of the century these totals were far exceeded, for immediately after the Franco-Prussian war, the amount of beet-sugar produced was (1873–74) more than seventy million hundredweights. The increase in production has been due, not only to the general development of the sugar trade and to increased facilities for consumption, but also to the improvements in the process of extraction. It was at first assumed that twenty hundredweight of green beets were required to produce one hundredweight of raw sugar, but latterly it was found that only eleven hundredweights and a half were required to produce this amount, while from the one hundredweight thus made, about eighty-two pounds of refined sugar could be extracted. This, of course, implied a very considerable economy in production. And, as is always the case with a commodity of this nature, the increased facilities for production led to a greatly increased consumption. During the period 1841–45 the annual consumption per head of the population was only a little over five pounds (weight), but this steadily increased till, in the period 1856–60, it was about eight pounds; and then it increased more rapidly, till in the five years, 1871–76, the consumption was about thirteen pounds per individual every year.

The consumption of sugar is a very elastic quantity, for it is hard to say how much a population is capable of consuming, provided it has the opportunity and the article is popular and cheap; and the increase would have been much greater if foreign sugar had been let in to the country, either free or at a moderate tariff, for till very recent years the Germans regarded sugar as a luxury, and did not use it to anything like the extent that it was used at the same time in England.

It is well known, of course, that the production of home-made beet-sugar has been favoured and encouraged by the system of bounties to the growers and refiners, so that they are able to produce sugar at a very low cost for export, and thereby undersell cane-sugar in the open market. From the foreign consumer's point of view this is a favourable arrangement for him, for he pays far less than he otherwise would for German sugar; but the price to the German consumer is higher than it need be if his home-made sugar was liable to foreign competition.

Moreover, the net result of the whole transaction is that the German consumer has to pay, in taxation, the bounties given to the beet-sugar producers, and thus a small class flourishes and fattens upon the taxation of the many. On the other hand, it may be urged that it is worth while to do this because of the beneficial influence it has on agriculture; and because, also, it keeps the money in the country and does not encourage foreign trade. But it may be doubted whether these advantages are so great as to be worth the price paid for them, though it is certain that the German consumer has the pleasure—if he is aware of it—of knowing that the policy of bounty-fed beet-sugar production has done a good deal of harm to the interests of his great commercial rival, England.

Another prominent feature of German agriculture has been the cultivation of tobacco. It is not intended to say that sugar and tobacco are the main characteristics of German agriculture; because that is by no means the case. But the growth of these two plants is sufficiently important to be noted in any account of economic progress, especially to an English reader who is not so accustomed as a foreigner to hear of the cultivation of others than the usual and ordinary crops. The tobacco plant only remains in the ground for one summer, and consequently the ground occupied by it has to be changed from year to year.

The cultivation of tobacco seems to have increased a good deal up to about the middle of the century, but after that it began to decline, for we do not find so large an acreage occupied by it as before. The year 1858 witnessed the largest amount of land under this crop, there being some seventy thousand acres planted with it. But it was an industry subject to considerable fluctuations, for, three years later, only half that acreage was utilised, the number being only some thirty-five thousand acres. This, however, was very low, and the extent of land under this form of cultivation again began to increase, till, in 1865, there were quite fifty-seven thousand acres planted. Of this number, most were in Baden and Bavaria, the states of North Germany, the Grand Duchy of Hesse and Wurtemburg giving the next largest supply; and Bavaria and Baden have always held the pre-eminence in this respect. In the case of this plant, as indeed in almost every branch of agriculture, the progress of modern science and the greater knowledge given by the spread of scientific methods have resulted in a larger yield from the same acreage. In 1869 only about ten hundredweights were obtained from an acre of tobacco plants, but ten years later we find eighteen hundredweights given as the yield.

Here again also, as in the case of sugar, it may be said that increased production has brought with it increased consumption. The greater the facilities for smoking, the more the population smoke; indeed one writer remarks that tobacco can hardly be called a luxury in Germany; "it is a necessary of life for one out of every five inhabitants, and is regarded as much an article of daily expense as bread, meat, or any other indispensable commodity." At any rate, not very long after the Franco-German war, the quantity consumed in the German Empire was stated as one hundred thousand tons, the value of which was over seventeen million pounds sterling (English), bringing into the revenue over a million pounds per annum. No less than twenty-nine thousand tons were consumed in the form of cigars, which, if we reckon one hundred cigars to a pound weight, gives the enormous total of six thousand *millions* of cigars smoked annually. It is not surprising after this that the Germans require a great deal of beer to accompany their smoke, or that lager beer is so popular an institution.

Besides beer, Germany is, however, famous for its wines, but these are grown in a comparatively limited area; and the production of wine in Germany is, and has been, excelled by its neighbours, France and Austria. Indeed, before the Franco-German war, the produce of Germany was much smaller than it has been since, for the provinces of Alsace and Lorraine, acquired then, produced very nearly as much as all the rest of the Empire. The figures of 1875 show this very clearly, for in that year the wine produce of Alsace-Lorraine amounted to some fifty million gallons, while that of all the rest of Germany was only fifty-five million.

Besides the vineyards, an important factor in the economic progress of Germany has been its forest land. The south and south-western districts contain the bulk of the forests, and any one who is familiar with the German river-system, and has travelled in the country, will remember the enormous rafts which float down the Rhine, the Elbe and other streams, as they have done any time during the last few centuries. By the enlargement of its territories, nearly half the land in the old Zollverein was covered with forests, there being forty-nine thousand square miles out of one hundred and three thousand square miles thus occupied.

The parts in which forests are most numerous are Nassau, Hesse, Meiningen, and Schwarzburg-Rudolstadt; and these forests have not been left merely in a state of nature, but have been carefully looked after and cultivated by competent officials, who have made a study of the science of forestry, so that the Germans are able to derive the full economic value from these very useful possessions. Not only is a vast amount of timber used for all sorts of purposes in Germany itself, but there is also a very considerable export trade from the Baltic ports. From these ports also comes a large quantity of grain and corn, which, during the whole century, has been a very important feature of German commerce.

CHAPTER XXXI.

PROGRESS IN GERMANY.

(3) MANUFACTURES AND COMMERCE.

When we turn to the question of manufactures, we find that progress in Germany during the first half, if not the first three-quarters, of the century was slow compared with that of other countries. There was indeed considerable progress, but not so much as would have been the case if the country had been more united, and had not been disturbed by so many and such serious wars and revolutions. The revolutionary movements of 1848 affected Germany very seriously, and we are told that the various countries were so violently disturbed that industrial labour almost ceased for a time. Then the political difficulties about the Zollverein and the question of German unity, the frequent friction and occasional war between Prussia and Austria, all contributed to hinder the steady progress of manufacture and trade.

It was not till after the Franco-German war that the German Empire began to take the prominent position which it now holds among the commercial nations of the world. But the years before the war were years of preparation; the Germans were learning from others, especially from England, and were setting up those active manufactures which have since proved such serious rivals to English trade. They were also inaugurating and consolidating that excellent system of universal education which has done so much to put them in the front rank of industrial nations. In the present chapter we need not anticipate the later portions of this work by going into the details of German commerce since 1870 or 1875, but will confine ourselves to some account of the salient features of manufacturing progress before that time.

Although, as has been just remarked, German manufactures did not take the prominent place which they now hold till much later in the century, there was yet considerable progress compared with what had gone before. In fact, Germany shared in the general effects of the industrial revolution, and the spread of machinery could not fail to give a great impetus to the manufactures already existing. To one of these, the making of woollen cloth, we have already alluded. This was carried on very largely in Saxony, as it still is. But Prussia also began to come to the front in this, as well as other branches of trade, and Prussian dyers achieved distinction for the excellence and brightness of their dyed cloths, due very largely to the care spent in acquiring a scientific knowledge of chemistry as applied to dyeing. Then also, throughout the whole country, machinery was very greatly improved, and mechanicians visited the factories of England and other countries, and brought back new ideas for use in their own. English machinery was imported, and often improved upon, while English factory-workers and foremen were attracted to Silesia, Saxony and other manufacturing centres by high wages, and thus taught the German workmen how to compete successfully with the English.

In addition to the woollen manufacture, which we have already mentioned, the cotton and silk trades began to flourish in quite a remarkable manner. The statistics of the cotton manufacture are very striking. Germany was undoubtedly late in entering the field in this direction, for when England had been developing cotton-spinning factories by the hundred, Germany was only just beginning. Thus, in the period 1836–1840, the annual consumption of raw cotton in Germany was only some 185,000 cwts. (English); then a few years later (1851–1855), we find the amount rising to an annual use of over half a million hundredweights (561,106), and ten years later again (1861–1865) it rose to nearly the million (975,651 cwts.). But it was not till just before the war that the annual average consumption rose to well over the million hundredweights, though after that time (1871 onwards) the figures steadily rise to two million, then two million and a half, and then (1877) to quite three million hundredweights.

The progress of the cotton manufacture is also seen from the increase in the number of spindles, which from the year 1852 to 1867 amounted to one hundred and twenty-two per cent, as compared with only an eighty-eight per cent increase in England; but then it must be remembered that England had already a large supply of spindles which had been working for years, while Germany was just making up for lost time. We notice, too, how machinery was improved when we find that each spindle in Germany in the year 1836 only worked up some twenty-four pounds of cotton, while in 1852 it worked up quite double that quantity (fifty pounds), and in 1867 very nearly three times the quantity, *i. e.*, now seventy pounds.

A comparison of figures from 1836 to 1870, showing how much of the cotton yarn used in Germany came from foreign factories, and how much was spun at home, shows very clearly how the home spun yarn has steadily increased in quantity, while the foreign yarn has declined in relative proportion. Whereas at first the foreign yarn was more than double the quantity of that produced at home, by the middle of the century the home supply was almost equal to it (440,000 to 497,000 hundredweights), and then, before the year 1860, the home supply exceeded the foreign, till in 1871 the home yarn amounted to nearly two million hundredweights, while the foreign yarn was only represented by some four hundred thousand hundredweights, or only seventeen per cent of the total supply. Since 1870, the German cotton manufacture, as we shall see later, has proved a serious rival to all foreign competitors, and even to England, in both their foreign and the home markets.

In the same way the silk manufacture had a surprising development after the year 1840. In that year the average consumption of silk in Germany was very small, being only some six thousand hundredweights, of the value of about one million three hundred thousand pounds English money, but thirty years later the consumption had risen to nineteen thousand hundredweights, of the value of over four million sterling English. One of the towns most prominent in the development of this industry was Colfeld, in Rhenish Prussia, still an important seat of the silk trade; and it is noticeable that most of the German silk manufactures were sent to England and to English colonies. Here again the German manufacturer has gained his pre-eminence by developing the arts of dyeing and finishing, to which, of course, silk textures are very susceptible; and he has been enabled to do this by the aid of the widespread education, technical and otherwise, given so abundantly in German institutions.

Once more when we turn to mining we find much progress, especially in Prussia. Of course this is only to be expected when we reflect how much iron, coal, and metal is required for modern manufacturing industries, for fuel, .machinery and railways. Mining and manufactures must always go hand in hand. Prussia especially took the lead in iron mining and smelting; and in the year 1861 iron to the value of six and a half millions sterling was smelted in Prussia alone. But this was multiplied nearly five times, not much more than ten years later (1873), when the value was thirty million pounds sterling English. After that year, however, there was a slight falling off, for a time. Value is somewhat an unsafe guide, owing to the fluctuations in prices for iron and steel, but the progress of the German iron industry has been most marked, and many foreign nations have felt the effect of German competition in this direction.

As regards railways, it cannot be said that Germany showed herself very active in taking advantage of this new invention for more rapid locomotion and transit. So late as the year 1840 when Great Britain already possessed over eight hundred miles of railway, Germany only had about three hundred and forty, and ten years later Germany still only had about half the mileage of Great Britain in spite of its much greater territory The reason for this comparatively slow progress is to be found, as usual, in the great number of small states which prevented, for a time, a homogeneous and united system of railway construction; and partly also because the population of Germany is more scattered than in England, and the distances are greater, so that though the railways are long, they do not cover so much mileage as the more numerous railways of England, which have a greater number of lines in a smaller area.

After 1860, however, there was considerable expansion in German railways. In the ten years 1851 to 1861, the mileage was doubled, and by the year 1869 it had risen to three thousand five hundred miles, while the goods traffic grew in a very rapid manner. Indeed it is curious to notice that the expansion of goods traffic was much greater than that of passenger traffic; the figures for 1850 show about forty-nine per cent passengers and forty-five per cent goods, whereas in 1860 the passenger percentage was only thirty-two while the goods percentage was sixty-three. This is accounted for by the fact alluded to above, that in comparison to its area, Germany is not so densely populated as countries like England or its little neighbour Belgium.

The expansion of goods traffic, however, shows us that great progress was being made with commerce and manufactures, and this is indicated by the facts which we have already given above under the heading of separate industries. During the second half of the nineteenth century, German industry has made giant strides, and in a later chapter we shall see more fully how remarkable has been her economic development.

Before leaving the subject of German progress, we should not omit to mention the condition of the great German seaports of the north, through which so much of the foreign commerce of Germany must necessarily pass, as indeed it always has done. The most important of these were Hamburg and Bremen, which, although only cities, with a small amount of territory attached to them, yet were counted as separate states. They were members of that great and historic confederacy known as the Hansa League, and the story of these and other Hansa towns is one of the most interesting portions of international commercial history. With the earlier and the more glorious portion of their history we have not here to deal, but after the French Revolution and the various wars and other troubles which resulted from it, the Hansa towns were, by the agreement between Russia and France, declared to be perpetually neutral.

But when Napoleon I assumed his power he seemed to treat them, like everything else, as his own personal belongings. In the year 1806 he offered them as compensation for Sicily, and it is said would have given them to Hanover, if he could have procured, by so doing, the peace he then desired with England, to which, of course, Hanover at that period was united. The towns were, during this time, held by French soldiers, and it is said that "the days of French occupation were spoken of by the burghers to their dying days in accents of terror." In the year 1810, without any further warning, Napoleon included the Hansa towns in the French Empire, with Hamburg as the chief town of the "department of the Elbe." The cost of the French occupation, though it only lasted about a year, was reckoned at over a million and three quarter pounds English money; and of course the loss to trade was enormous, for Hamburg had then been for a long time a free port, but under Napoleon's Continental blockade (described fully in a previous chapter), it could not longer trade freely, and its citizens had only the choice between submitting to the sacrifice entailed by the blockade, or running the greatest risks by smuggling upon a scale of unusual magnitude. After Napoleon's downfall, however, happier days were in store for Hamburg and its fellow cities, Bremen and Lübeck, and they remained virtually free, though nominally attached to Germany. In this condition they continued till the year 1888, when Hamburg and Bremen were incorporated into the German Zollverein, Lübeck having anticipated this step some twenty-two years previously.

During the century the fortunes of Hamburg, by far the most important of the three, have naturally fluctuated with the rise or depression of the commerce of the rest of Germany. It is the greatest seaport of the present, as it was of the old, German empire; and this distinction it owes to its excellent situation. The Elbe, which may be navigated for an immense distance—as far in fact (at least for some vessels) as the boundaries of Bohemia—brings down to Hamburg the commerce of a very large division of Central Europe; while advantage was taken at a very early period to extend the benefits of this river navigation by improving the system of inland traffic by means of canals or by utilising tributary streams. There was, quite early in the century, communication by canals and waterways from the Elbe to the River Spree (on which Berlin stands) and to the River Oder, and from the latter right on to the River Vistula, which laps the confines of Russia, so that the produce even of Silesia and Poland was able to find its way to the shores of the North Sea. Here was also communication by canal with the Trave, and so to Lübeck and the shore of the Baltic Sea; and some of the earliest railways in Germany were those con-

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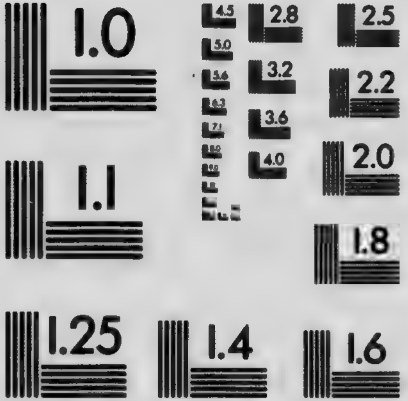

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necting Hamburg with Hanover, Kiel, Brunswick and Berlin. As regards communication by sea, her position on the estuary of the Elbe gives her an outlet, not only for Europe but for international commerce. Vessels drawing fourteen feet of water come up to the town at all times, and much has been done to facilitate the passage of larger ships.

The trade of Hamburg, it has been truly remarked, embraces every article that Germany either buys or sells to foreigners. During the first half of the century her exports consisted chiefly of grain of all sorts, wool, clover-seed, bark, spelter, butter, salted meats and provisions, linens and other German manufactured goods, Rhenish wines and wooden toys and clocks. Most of the chief articles of the Baltic trade, such as grain, flax, iron, wax, pitch and tar, also generally passed in greater or smaller quantities through this port. The imports consisted principally of foreign colonial produce such as coffee and sugar, tea, pepper, spices, foreign dyewoods, and raw cotton; also cotton yarn and manufactured cotton goods, tobacco, wine, spirits, and similar articles. The varieties of grain often brought to this part were very numerous, as it was a great emporium for both the export and import trade in this commodity, including not only wheat, but large quantities of barley and oats. The total annual value of the import and export trade of Hamburg, in all articles, was, about the year 1840, valued at as much as twenty million sterling (English) a year; and at this time the largest portion of the trade was with English merchants. In fact the trade of this single city with Great Britain until 1861 exceeded that carried on by the whole of France with Great Britain by one half; it was often even double, although the trade with

England took by far the largest share of the French commercial list.

But the figure of twenty million quoted above, as representing the trade before the middle of the century, was far exceeded, as German commerce made more progress. Accurate estimates of the exports do not seem to exist before 1874, but in that year these alone were valued at twenty-four million pounds English money, while the imports give the enormous total of eighty-four million. As steam navigation improved and ocean passages were made across the Atlantic, the trade of Hamburg with America became more and more important. It was so far back as 1778 that the first direct ship from North America sailed right from the west into the mouth of the Elbe and cast anchor in Hamburg, and so great had the traffic become a hundred years later that the imports from America passing through that port were valued at between four and five million sterling (pounds English).

In the year 1842 Hamburg was severely afflicted by a terrible fire which broke out and lasted for four days (from May the 5th to May 8th), when over four thousand buildings and seventy-five streets were burnt down. The damage was estimated at thirteen and a half million sterling (English), but it is extraordinary how little permanent damage was done to the prosperity of the city and how quickly it recovered from what was undoubtedly a severe shock. Since then the story of the trade of Hamburg has been one of triumphant progress, in unison with the progress of the rest of the German Empire.

CHAPTER XXXII.

THE PROGRESS OF AUSTRIA.

We turn next to Germany's great southern neighbour, the dual monarchy of Austria-Hungary. Up to the year 1848 it was but a conglomeration of states, and its political history was a story of many, and often stormy, vicissitudes. At one time Austria possessed portions of the fertile plains of North Italy, as well as Venice, but its exterior possessions were gradually taken from it, and it has assumed the political boundaries with which we now are familiar. We cannot here go into the details of its political history, but some notion of Austrian commercial policy will have been gathered from the remarks we have already made when dealing with the German Zollverein.

It must be admitted that Austrian progress has suffered severely from the political difficulties of the first part of the century, and even from war. To begin with, hardly any other European country suffered so severely from the wars caused by Napoleon I, and until the Peace of 1815, there was but little chance for Austrian industries and commerce to make much progress. After the Peace, however, there was a time of recovery and development, and the immense natural resources of the country in mining and husbandry were able to receive more attention. The Italian provinces, which at that time belonged to Austria, soon assumed once more their wonted fertility, while in Bohemia and Moravia sheep rearing —a pursuit which it is almost impossible to carry on in time of war—was again pursued with great success. The result was seen in the development of the woollen manufacture in these two provinces, which indeed always have been among those most prominent in the manufacturing industry. The manufactures of glass, iron, steel, cotton, and linen were likewise revived, and began to attain some degree of prosperity.

About the year 1830 the Empire began to assume a much more satisfactory appearance from an industrial point of view, and as agriculture developed and the husbandmen became more wealthy, there arose naturally a greater demand at home for Austrian manufactures. There would also probably have been a much greater share of German trade for Austrian manufacturers, if the government had not refused (as we saw) to join the Zollverein, and to fall in with Prussia's suggestions as to commercial policy; but on the other hand there was a fair foreign trade with Turkey, Russia and the nearer portions of Asia. In the year 1838 some attempt was made to encourage trade with England by a modification of the decidedly hostile tariff then in force, but the reduction of duties was hardly large enough to make any substantial difference, and we do not find that the trade between the two countries concerned was appreciably affected for the better. At this time there was, of course, as there always must be under a high tariff, a very great amount of smuggling carried on, partly on the land frontiers, but also very largely on the (then) sea frontier, along the coast of the Adriatic.

However, in spite of tariffs and political troubles, the condition of Austria about the year 1840 showed considerable improvement upon what it had been some twenty-five years previously. The gold and silver mines were becoming more productive, more than a million ounces of the latter metal being extracted on an average annually. This may seem only a trifling amount now, compared with the enormous production of some of our end-of-the-century silver mines, but at that period, and for that country, it was considered very satisfactory. The forest products also furnished then, as they always have done, a very large portion of the national wealth; and at the period we are now speaking of, some five and a half million loads of timber were cut, besides the accompanying products of tar, turpentine, potash and charcoal.

Another important source of national prosperity was the vineyards, for Austria-Hungary is one of the largest wine-producing countries in Europe. There were then some six hundred million gallons of wine made; and, as in Germany, the culture of the wine was accompanied by the culture of tobacco, to a fairly considerable extent. There were about three hundred thousand hundredweights of the cut tobacco leaf grown, and two hundred million bundles of cigars made, so that the Austrian smoker seems even then to have been well provided for. But the greater portion of the population was engaged in what may be termed agriculture proper, apart from somewhat extraneous products such as tobacco; and the agricultural statistics of this date (1840) show how large were the numbers of horses, cattle and other live stock reared. Two and a half million horses, eight million cattle and thirty million sheep represent a large amount of pastoral wealth; while agricultural progress was shown by the fact that between fifty and sixty million quarters of grain and nearly one hundred million bushels of potatoes were grown.

On the other hand, in spite of heavy protective duties, the home manufactures did not attain the rapid growth which they reached in England, but that was no doubt due also to the fact that although there is plenty of iron in Austria, the amount of coal is not so large in proportion as it is in some other countries, and what there is, is not always easily accessible. It is perhaps not very remarkable that Austria should place heavy duties on foreign manufactures, in the hope that her own home industries would benefit thereby, but there was less excuse for the severe tariff on foreign colonial products such as coffee and sugar. The taxes on these articles seem to have been a legacy from the Napoleonic era of strict blockade, when it was hoped that beet-sugar and chicory could be made to take the place of genuine cane-sugar and coffee.

The financial condition of the dual monarchy, however, was at times far from satisfactory, in spite of the various attempts to improve the revenue by the imposition of heavy taxes on foreign products. At the commencement of the French Revolution—to go back a little—the Austrian debt was nearly thirty-five million pounds English. By the year 1793 it had grown to forty-two millions, and in 1799 it was sixty-three millions. As the period of war went on, the burden increased. It was sixty-eight millions in 1802 and no less than eighty-one millions in 1811. A succession of most unusual financial measures were taken with the object of reducing the amount, and the Government was reduced to great difficulties. Th interest on the debt was reduced by one-half, and often the unhappy creditors were compelled to make a further loan under pain of losing their original claim. Paper money was issued in large quantities, with the usual result that good metallic coin was driven out of the country.

At first this paper money was issued under the guise of "bank bills," and stood for a time at par. In 1794 the amount thus issued had risen to over three million pounds sterling (English), but, in 1797, the amount was double this and stood at over seven millions. The amount increased year by year in an alarming manner, so that in 1809 paper money to the amount of seventy-three millions sterling was in circulation. The value of this paper sank to only one-seventeenth of its normal value, although every effort was made on the part of the Government to keep it up. An imperial edict of February, 1811, declared on the part of the Austrian Emperor, that "I give my Imperial word that the bank bills shall never be reduced in value." The worth of this declaration may be seen from the fact that six weeks after this the Government reduced the value of the paper money (which had now risen to one hundred and six million sterling English) to one-fifth. That is to say, the old paper money was exchanged for new, called redemption notes and anticipatory notes. But even this new money was continually increased, in spite of all promises to the contrary, so that in the end it fell to only one-twentieth of its nominal value.

The result of all this was something very nearly approaching national bankruptcy. After the Peace of 1815 financial measures were taken with a view of placing the finances upon a more satisfactory basis. The holders of paper money had the choice given them of either exchanging it for two-sevenths of its value in bank-notes, and accepting state paper at one per cent for the remaining five-sevenths, or of exchanging the paper money for shares in the new "National Bank," which had just been established. The result of this was that the amount of paper money was certainly diminished, as may be seen from the statement that in the year 1817 the amount was equal to fifty-two million pounds of English money, but in 1821 it was only thirty-three million, and by 1827 had gone down to only about ten million pounds, while in 1839 it had been reduced to only two million.

At the same time, however, the condition of the national debt had in reality become worse, although the nominal amount of it was reduced by exchanging the old debt scaled down to 2½ per cent interest for new 5 per cent bonds payable in silver. Frequent issues of loans, repayable in cash, were made between 1818 and 1841, and the system of lottery loans, so popular in some continental states, was employed to help the finances. The first lottery loan was issued in 1820, and was followed by others in 1834 and 1839. The system inaugurated by Prince Metternich, the famous statesman, during the long period 1811 to 1840, only resulted in an increase of debt, so that the amount of interest payable rose from £770,000 to over four million pounds (English money). The years 1846 and 1847 were a time of very severe financial embarrassment, while the revolutions of 1848 in Vienna, Hungary and Italy, of course made matters worse. Paper money was again resorted to in almost unlimited extent; the export of coin was forbidden, and a decree of June 2nd, 1848, ordered a forced circulation of bank-notes. After this, in less than twenty years (1848 to 1866), the amount of paper money issued rose to the enormous total in English money of one hundred and seventy four million pounds.

It will thus be seen that the progress of Austria-Hungary during the first half of the century was very considerably hampered by the unfortunate financial condition of the empire. Compared with the miserable state of the two countries and the various states composing them during the period of the Napoleonic wars, there may certainly be said to have been progress; but it was by no means such as would otherwise have been expected from the rich natural resources which the Austrian states have always possessed. Indeed, if it had not been for this national wealth, there would hardly have been any progress at all to record. But Austria is fortunate in its agricultural and pastoral resources, and it is to these that we must look if we wish to gain some idea of what possibilities the country contains.

We notice at once how vast a preponderance the agricultural population has always held when compared with those engaged in other occupations. In the Austrian portion of the empire the number of people engaged in cultivating land and forests, whether as proprietors, farmers or merely labourers, was about seven millions, as compared with only one hundred thousand employed in mining and smelting works, and half a million in industries connected with the working of metals or stone. The number of those engaged in textile manufactures, leather and paper factories, and similar trades was only about a million, and those included under the head of "commerce," *i. e.*, the distributive portion of industry as distinct from the productive trades, was little more than a quarter of a million.

From these figures we see at once how large a share agricultural industry must take in the life of the nation. In lands belonging to the Hungarian crown we notice much the same relative position of occupations. There were some five million persons engaged in agriculture, or the rearing of live stock and the care of the forests, as compared with only fifty thousand in mining industries and about six hundred thousand in manufactures. It is, by the way, rather remarkable, in looking over these figures of employments, to see how large a number of persons were occupied in "personal service," the number being well over a million.

These figures refer to about the year 1879, but they have not changed very much, in relative proportion, during the century, except that the earlier we go back the more we find devoted to agricultural and kindred pursuits, and the fewer to manufacturing employments.

The countries included in the Austrian empire possess, as has just been stated, great natural resources, but these have been in many respects but little developed till quite late in the century. This has been due to the various impediments which existed in regard to both the economic and the intellectual progress of the people. The condition of the peasantry, for instance, was for the first half of the century very poor and degraded, though a decided improvement took place after the revolutionary movements of the famous year 1848. The state of "bond service" (Róbot) peculiar to Austria, and other conditions of what was practically serfdom, were after that period abolished, and the old feudal burdens were allowed to be redeemed. The Austrian peasantry had till then been in a condition similar to that of the French peasantry before the French

Revolution, or to that of the English in the middle ages. But the English peasant gained personal freedom, if not much material or economic improvement, long before any of his less fortunate Continental brethren.

Another impediment, besides feudal service, to the proper development of agricultural industry, has been the system of "mortmain," and the clergy and nobility having indivisible properties of enormous size, often as large as small states. The burden of taxation also was felt very heavily, as was only natural considering the immense sums of interest which had to be paid on the public debts referred to in another paragraph. Still there has been considerable improvement in the second part of the nineteenth century, especially as stated after the year 1848.

Referring still to agriculture, the main industry of the country, we may just note the division of the land, and the various uses to which it is put. Some fifty-two million acres are arable land, this amount being fairly equally divided between the Austrian and the Hungarian portions of the monarchy. The vineyards cover about a million and a half acres, but here the greater portion is in Hungary, and not much more than half a million in Austria. Meadow and garden land occupies a considerable space, being some nineteen million acres, while of course pasture land covers a large part of the territory, and is equally divided between the two kingdoms, being over twenty-two million acres in all. The extent of forests is, as is well known, very great indeed, covering quite forty-six million acres, and from these a considerable amount of material wealth has always been derived.

As regards the productions of the soil, there has not been very remarkable progress in agricultural methods, and there certainly was not in the first half of the century, with which we are now more particularly dealing. In Hungary we find that the average amount of cereal crops in the "seventies" was about one hundred and twenty million bushels annually, but at that time the amount of bread stuffs was diminishing from what it had been previously. The cultivation of the vine has always been a very important item of national wealth, since Austro-Hungary, next to France, is the largest wine-producing country in Europe. Of the two portions of the dual monarchy, Hungary is the richer, as far as vineyards go, but unfortunately the methods of treatment of the grape are not so satisfactory as they might be, and the quality of the wine resulting is consequently inferior. The quantity also, as well as the quality, fluctuates to a very noticeable extent, and the annual product has varied between eighty-eight million and three hundred and seventy-four million gallons—a margin which is extremely wide.

Cognate to the subject of wine is that of beer, and this has greatly increased in the latter portion of the century, and much progress has been made in brewing. It is noticeable that the progress of brewing beer has been marked by a greater output from fewer establishments, the reason being that the numerous small breweries have either become extinguished or swallowed up by the larger. Thus, just after the first half of the century, there were over three thousand breweries working, but in 1873 there were only two thousand six hundred; yet in that time the amount of beer produced had risen from fifty-seven million gallons in 1860 to the enormous total of two hundred and fifty-three million gallons in 1873. Perhaps the most famous of all the Austrian breweries is that at Pilsen, where the well-known Pilsener lager beer is brewed.

As regards commerce generally, we notice that an important step in commercial policy was taken in the year 1850, when the customs line between Hungary and the other provinces was abolished. In the next year (1851) Austria relaxed her hitherto prohibitive system, and in 1853 concluded a treaty with the German Zollverein, which was of great assistance to trade. A few years later, also, greater facilities in the matter of customs were introduced (1865), and another treaty with the German Zollverein, made in 1868, was a further improvement from a commercial point of view. Whether in consequence of this greater freedom of trade, or from the general progress of the whole empire, there was, in spite of the many drawbacks which we have already referred to, a very great increase of trade in the thirty years from 1831 to 1860. In the previous year the imports only amounted in English money to six million eight hundred thousand pounds; in 1860 they had risen to over twenty-three million. In the same way the exports which in 1831 had only been of the value of just under eight million sterling, had risen at the latter date to over thirty million. In more recent years these figures have, of course, been greatly surpassed.

As regards railways, Austria was very slow in availing herself of these means of communication, although the vast distances might well have seemed to invite enterprise in this direction. In the year 1840 there were only ninety miles of railway in Austria, and none at all in Hungary, and even ten years later Hungary only had one hundred and forty miles, though Austria had by that time laid down eight hundred and twenty. It is only in comparatively recent years that any extensive system of railway making has been carried on, and though, of course, it was hardly to be expected that Austria could ever develop to the extent which took place at the same time in England and America, yet we find her backward even as compared with Germany. The general effects of a consideration of the progress of the Austro-Hungarian empire has thus led us to see that it was for a great part of the century comparatively slow, and hindered by financial difficulties and frequent war, although the general resources of the country were undoubtedly rich, and, under proper advantages, might have produced a high degree of wealth.

CHAPTER XXXIII.

THE PROGRESS OF ITALY.

(1) SOCIAL CONDITIONS AND MANUFACTURES.

CONTINUING our survey of the commercial and industrial progress of Europe, we turn next to the country to the south of Austria, the fertile and pleasant land of Italy. But here also we find the natural riches of the country suffering from internal confusion and political maladministration. It is indeed impossible to appreciate what economic progress Italy has made without some understanding of the political changes through which the Italians have passed during the present century. And, truly, it has been a somewhat chequered course. From the year 1815 to 1848 there were almost continual conspiracies and insurrections, and the land was held down under the power of Austria or of princes supported by Austria. Only in the Sardinian states was there some approach to national spirit, though freedom was far from gained.

In 1846 the Papal influence of Pope Pius the Ninth was, on his accession to the chair of St. Peter, directed towards the cause of reform and some elements of freedom. But two years later, in that year of universal revolution, 1848, many parts of Italy rose in insurrection, and much political and social confusion resulted which could not fail to have its effect upon industry and commerce. Sicily chose a king separate from Naples, Rome and Venice became commonwealths, while Milan also rose against Austria. The Sardinian king, Charles Albert, made war against Austria, but was defeated in 1849 at Novara and then abdicated. The Pope and the various rulers who had fled at the signs of the storm of revolution now came back, while the Austrians and French again crushed down the various attempts at freedom.

Then in 1859 war arose between Victor Emmanuel, now King of Sardinia, and Austria, and in this war Sardinia was helped by France. The French emperor promised "to free Italy from the Alps to the Adriatic," but though the Austrians were defeated and compelled to give up the plains of Lombardy, they were allowed to keep Venice and Venetia. France took possession of Savoy and Nizza. Then came the famous struggle for freedom carried on by Garibaldi for Sicily, which was joined then to the kingdom of Victor Emmanuel, to which kingdom also various other Italian states became adherents, till at last in 1861 Victor Emmanuel became King of Italy.

His kingdom included practically the whole country, except the states of the Pope, who was kept in power by the French. Meanwhile, in 1866, during the war between Prussia and Austria which ended so disastrously for the latter, Austria was compelled to give up Venetia; and a little later in 1870, when the French were engaged in the war against Germany, Rome, deprived of French support, became free from Papal political rule; and thus Italy came entirely under the sway of one kingdom, and was able to breathe freely as one united country. But, from this very brief and hasty review of political circumstances, it can readily be seen that commerce and industry must have been severely hampered in the normal course of their development.

The finances of Italy have for nearly the whole of the century been in a seriously distressed condition. Of course much allowance must be made for the political confusion which prevailed for so long, and it has been well remarked that a State newly formed by means of force could not be expected to restore at once the balance between revenue and expenditure from its own resources. This is more especially the case when the State, with whom the change originated, was itself burdened with ruined finance, while of course the population of Italy as a whole has long been very poor. "If to this be added the outlay for a very large standing army, much extravagance, a not infrequent want of honour in the administration, and, lastly, internal disturbances—then the results cannot but be unfavourable."

Even the increase in the ordinary revenue, which has occasionally been shown, has not been of at all a satisfactory nature. The growth has been caused mostly, not by a larger yield from the old taxes, but by new imports. "In no year," it was stated in quite recent times (about 1875), "have the ordinary receipts covered the ordinary expenditure, and many items mentioned as 'extraordinary' belong to the ordinary budget." The "extraordinary" receipts shown were caused by selling State property and contracting new debts. At one time money was so scarce that in 1866 notes were issued for the paltry sums of one lira (10d.) and even half a lira (five pence, English), and to the present day notes for one lira are in circulation. About the only real increase in any item was shown by a very unsatisfactory receipt, that from lotteries. This source of revenue, which could not fail to have a bad effect upon the morals of the nation, produced a profit of one million four hundred thousand pounds sterling (English) in 1862; as much as two and a half million sterling in 1868, and three and a quarter million in 1869.

A very unpopular item of taxation was the "grist tax," levied upon the grinding of cereals (la tassa sulla macinazione der cereali), introduced at the beginning of the year 1869. It was calculated by means of the "counter" (contatore), a machine which counts the revolutions of the mill wheels. "Few other taxes have excited so much bitterness from the first, and this bitterness has been increased by defects in the counting machine. The gross yield came to a tax of about 7¼ pence per head of the population in 1869, or seven hundred thousand pounds sterling as a total, but it rose to as much as two shillings and five pence per head in the year 1876, producing a revenue of over three million sterling. It can easily be understood that a government which has been reduced to this expedient of taking the people's food must have had very considerable financial difficulties to contend with.

The social condition of the Italians is one of much poverty in spite of the great fertility of the soil, and the abundant advantage which their country possesses. Of course the vast majority were, in the first half of the century, as they still are in the second, engaged in agricultural pursuits. These employed some eight and a half million out of a total of twenty-five million persons, whereas mining industries only employed about thirty-eight thousand. A very remarkable fact in looking at the statistics of the social condition of Italy is the very large number of persons "without definite" employment. There were well over eleven millions of these in 1871, and there were certainly no fewer before that date. Then again, among other curious facts, we notice that the number of "acrobats, strolling minstrels, and hawkers," was almost as large as that of the legal profession, being twenty-two thousand in the former case and twenty-five thousand in the latter.

Of course it will not be a matter of surprise to the reader to learn that, with a population thus constituted, there has always been a great deal of poverty. How widespread that poverty is, even at the close of the nineteenth century, when Italy has greatly improved, is well known to foreign travellers in that country; but the facts and figures of taxation give even a clearer view of the state of the nation during the greater part of the last hundred years. In the year 1871 only some 630,000 inhabitants paid income tax at all, and of these the vast majority, in fact five-sixths, paid taxes on incomes less than forty pounds (English) yearly. Only some eighty-three thousand persons had incomes larger than this paltry sum. If this was the case in 1871, it was certainly no better during the troubled and confused period before that time. What wealth there was, was to be found mainly in the upper and central portions, for Lower Italy was the poorest of all.

Another unfortunate feature of the social conditions of the people was their ignorance. Here again, when the country came under one rule, startling facts were made manifest. By a decree of November 15th, 1859, primary education was made compulsory and free, but a very effectual barrier to the carrying out of this decree existed in the fact that there was by no means an adequate supply of suitable teachers. It was shown in 1861–62 that the proportion of those who could neither read nor write, out of every thousand inhabitants, was disgracefully high. In Lombardy and the old provinces these illiterates comprised nearly half the males, and more than half the females; in Central Italy more than half the males (641 out of a 1000) and three-quarters of the females; while as for Naples and Sicily those who could read and write were in a hopeless minority, since eight out of every ten males and nine out of every ten females could do neither.

When these facts became known by the taking of the census, and it was found that no less than seventeen million Italians were quite uneducated, there was a great outcry, and general shame and indignation was expressed by those who took an interest in the welfare of the nation, and great efforts were made by the government to bring about a better state of things. But educational reforms cannot be accomplished in a day, and, in spite of the most laudable attempts, much remains to be done for Italian education.

With so great an amount of ignorance prevalent, and the vices which necessarily accompany it, it is not surprising to find that Italian industry, trade and commerce were in a very backward state for a large part of the century. In the eighteenth century, indeed, many of the larger towns were in a far more flourishing condition than they were in the first part of the nineteenth. Agriculture, as we noted before, absorbed the energies of the greater part of the population; but manufactures were for a long period very much depressed, and even the typical Italian manufacture—that of silk—sank to a low ebb. About the year 1840, however, some improvement took place in the (then) Kingdom of Sardinia, and we find that it had at that time five hundred and ninety silk factories and three hundred and twelve cotton mills, though the cotton employed rather more hands than the silk. There were only sixty-two factories for woollen goods.

The next set of figures on which we can rely are much later (1877), but show a very great increase in the silk industry, for it then employed over two million spindles, and two hundred thousand operatives. The cotton manufacture came next, but a long way after, only employing fifty-four thousand people, while the woollen trade only employed twenty-five thousand, and the linen cloth trade twenty-two thousand. The province in which there were most manufactures was Lombardy, though Piedmont was not far behind it. The production of textile industries generally for the year 1850, just half-way through the century, was not very large, the value in English money being three million pounds sterling for silk, two millions for cotton, and three for wool. These industries have all improved since, but even twenty years later had not developed very rapidly.

A few words should be added, while on this topic, upon the chief Italian textile industry, that of silk. It has long been one of the most valuable of Italian products, though it must be noted that it is the raw material rather than the manufactured article to which the Italians devote themselves. The export of silk now averages about ten million sterling per annum, and Lombardy is the chief centre for silk growing. But till quite recent years no less than ninety per cent of the silk grown was from eggs imported from Japan, and not from those in Italy itself. These eggs were sent on cards from Japan and hatched in Italy, the cards being worth about seven shillings an ounce, or twelve thousand pounds per ton. In former years the eggs yielded about fifty pounds weight of cocoons for every ounce on the cards, but recently they have only yielded about thirty-five pounds. The province of Lombardy now raises yearly no less than eleven thousand tons of cocoons, worth two hundred pounds (English) per ton.

The chief factories to which the raw silk is sent for "throwing" are in Milan and Turin, but for the remaining processes of manufacture by far the greater portion of the silk is sent out of the country to the silk mills of Lyons in France. A certain amount is retained for home consumption in the making of velvets and damasks, but this is only a comparatively small portion. In fact, during the period 1861 to 1870, of five and a half million pounds (weight) of silk produced, no less than four and a half million were sent out of the country and only a million retained for home use. Thus the import of manufactured silks has always been far greater than the export. But the net product of the whole silk industry to Italy is very considerable, and is given by reliable authorities as equal to ninety-four million pounds sterling in the period 1861-70.

CHAPTER XXXIV.

THE PROGRESS OF ITALY.

(2) COMMERCE GENERALLY, THE SEAPORTS, AND SICILY.

It is not very easy to give a comprehensive view of the commerce and industry of Italy during the first part of the century—with which we are now mainly concerned—because the country was, as we have seen, divided up into so many different states and kingdoms, and exact statistics are not available for all of these. But a view of some of its leading features, sufficient at any rate for our present purpose, may be gained by taking a glance at the condition of the great seaports; those of Genoa and Venice in the north, of Naples, further south, and of the island of Sicily at the extreme end. Of these, Genoa and Venice were in the Middle Ages extremely flourishing, but in modern times declined rather than progressed.

A commercial historian writing of about the period 1840, remarks: "The commerce of Venice, once the most extensive of any European city, is *now* comparatively trifling, and the population is gradually diminishing both in numbers and wealth. Her imports consist of wheat and other sorts of grain from the adjoining provinces of Lombardy and the Black Sea; olive oil, principally from the Ionian Islands; cotton stuffs and hardware from England; sugar, coffee and other colonial products from England, the

United States and Brazil; dried fish, dyes and stuffs. The exports principally consist of grain, raw and wrought silk, paper, woollen manufactures, fruits, cheese and the products of the adjoining provinces of Italy, and of her own industry; but her manufactures, once so famous in the Middle Ages, are now decayed."

The cause of this unhappy decline is to be found largely in the political vicissitudes which Venice was compelled to undergo. From the time when Venice came into the possession of Austria, down to the year 1830, it seems to have been the policy of the Austrian government to encourage their own special port Trieste rather than Venice, though afterwards a more liberal spirit was shown. In the year 1830 Venice was made a free port, and this, of course, gave her much greater commercial advantages than she had enjoyed previously, but even then she did not seem to flourish as much as Trieste, nor even so much as was at that time anticipated.

The fact was that, owing to her peculiar situation, Venice has really no very great advantage as a seaport, and it has been very truly remarked that her extraordinary prosperity during the Middle Ages was due rather to the security of her position, and its comparative freedom from the alarms which beset so many inland towns, than to any conspicuous advantage given by natural surroundings. The character of her inhabitants also had much to do with her success. There is also another curious fact, and that is, that until the introduction of railways and the piercing of the Alps by tunnels, the traffic which went over the Alps from North Italy into South Germany and Austria was by no means so great in the eighteenth and nineteenth centuries, as it had been in earlier times. At one period, Venice was the great *entrepôt* for the commerce of the far East and the centre of Europe, but the developments of navigation caused the stream of commerce (as the present author has pointed out in another work) to flow in quite a different direction.

About the period 1830 to 1840 we have no very exact statistics as to the amount of commerce which passed through the port of Venice, but the imports have been estimated at about one and a half million pounds in English money. The exports consisted chiefly of raw silk and silk manufactures, with jewellery, and glasswares, for which Venice has long been famous. It was noticeable that at this period by far the greater portion both of the export and import trade was really carried on by Trieste, by means of coasting vessels which plied between that port and Venice regularly. At the same time there was a very extensive smuggling traffic into Lombardy, which, like Venice, then formed part of the Austrian dominions. It was said, for instance, that fully two-thirds of the coffee used in North Italy at that time came in free of duty by illicit means, while sugar and British manufactures, both textile and hardware, also found their way through in the same manner. The facilities for smuggling, indeed, owing to the peculiar character of the coast and mountain frontiers, were so great that it was impossible to estimate properly the real amount of trade that went on. Certainly the amount reported to the customs authorities was by no means representative of the general total.

The manufactures of Venice itself have always been fairly various, and, even at this depressed period, were more flourishing than is commonly supposed. The glassworks of Murano, which made all kinds of beautiful mirrors, chandeliers, beads and imitation jewellery, employed then about four thousand people, while many others were engaged in the production of rich velvets, gold and silver cloth, laces, silks and similar fabrics. Another industry was printing, which was very actively carried on, and the production of books was very large. The coasting trade was also very important, and has increased in later years; at that time there were about thirty thousand tons of shipping, exclusive of the numerous fishing vessels which fished in the Adriatic.

More flourishing at this time than Venice was her ancient rival, Genoa. Once a city republic under its own government, it was in 1838 a province of the Kingdom of Sardinia, and was then reckoned one of the finest cities in Europe. Its population was over one hundred and fifteen thousand, which, in those days of small cities, was accounted very great. In general, we are told by one very good authority, her streets were inconveniently narrow and crowded, but some of the principal ones were "moderately wide," and consisted almost entirely of public buildings, or of private palaces erected during the period of her greatest prosperity. Like Venice, Genoa also had seen her best days in the Middle Ages, but she did not suffer so severely from Austrian policy as the other seaport, nor was she quite so isolated in her natural surroundings. Being also built upon a rising ground in the form of an amphitheatre, the appearance of the town from the sea was always very fine, and gained for Genoa the proud title of "la Superba."

The port is the *entrepôt* of a large extent of country and her commerce, though, in the early part of the century, inferior to what it once was, began a little later to increase again, especially as it was a free port, and goods could be warehoused and exported free of charge. The exports consisted, as they always had done, to a certain extent of the raw products of the surrounding country, such as olive oil, which formed a considerable item, rice, grain and fruit; also raw silk and silk goods, and works in marble, alabaster and coral. Genoa also enjoyed the trade in cotton fabrics from Switzerland, which were sent in fairly large quantities to the Levant, and to the East or to the countries bordering on the Mediterranean. The imports consisted also of cotton and woollen manufactures, raw cotton from Egypt, a good deal of corn from the Black Sea, Sicily and Barbary, the usual colonial products of sugar, spices, dyes and coffee; iron and naval stores from the Baltic; a fair amount of hardware, metal goods and tinplate from England, lead from Spain, and wool and tobacco. The abolition of the various duties and custom house fees charged on transit of goods through Genoa had a very beneficial effect upon the trade of the port, particularly upon the import trade of raw cotton for Switzerland and colonial products for North Italy and Central Europe.

The next seaport we notice is the great harbour for the south of Italy, the celebrated city of Naples situated on its beautiful bay. It was, in the first half of the century, far larger than either Genoa or Venice, her population being three hundred and fifty thousand. Naples has always been well situated for commerce, but it suffered much from misgovernment, and as a consequence, its trade was confined within rather narrow limits. But even so, it was quite representative of the commerce of Southern Italy, and its exports consisted chiefly of the produce of the surrounding country. One of the most important articles of trade was olive oil, though this was really supplied mainly from the town of Gallipoli; and the entire exports of oil from Naples about this time (1840) were estimated at over thirty-six thousand tuns annually. At the rate of £21 (English) per tun this is equivalent to an annual sum of over three quarters of a million sterling for this one article of commerce alone.

The other exports were wine and brandy, wool, fruits, madder liquorice, madder, hemp, linseed, hides, bones, lamb skins, kid skins, saffron, and oak and chestnut staves. Neapolitan wines have, of course, always been famous, especially the *lacrima Christi,* as well as others from the district of Calabria. The imports consisted of a good deal of English cotton cloth, with hardware, iron and tin goods, woollen fabrics, and the usual coffee, sugar and other colonial products. Naples was also a good market for pilchards, cod and other fish. But many complaints were constantly made by foreign economists and merchants upon the "perverse policy" of the Neapolitan government, which burdened trade with very oppressive duties.

Going still further south, we come to the great Sicilian port of Palermo, not so large indeed as Naples, but larger than Venice or Genoa, with a population at that time of about one hundred and seventy thousand. The great articles of export from Sicily by this outlet have always been olive oil, and wheat and barley; also silk, wine, brandy, lemons and oranges, fruit, salt, salted fish, and the volcanic products of sulphur and pumice stone; hides, skins, wool and saffron should also be noted. The quantity of wheat exported has always been very great, though of mixed quality; while the wine shipped from Marsala is well known. Barilla and shumac are also Sicilian products. The imports are much the same as those already mentioned for Naples and Genoa. The total value of the exports of Sicily in 1840 was nearly one and a quarter million sterling in English money, of which four hundred thousand pounds' value went to England, while Sicily imported from England about three hundred thousand pounds' worth out of a total import value of eight hundred and thirty thousand pounds.

Like many other famous countries of the south of Europe, recent centuries have seen in Sicily decay rather than progress. At one time one of the most fertile of lands, and called the "granary of Rome," it was said of it not long before the first half of the nineteenth century was nearly complete: "There are now few countries where agriculture and the arts are in so degraded a state. . . . Misgovernment, the abuses of the feudal system, insecurity, unequal and arbitrary taxes have here paralysed industry and impoverished the people." Among other causes of the decay rather than the progress of Sicilian export trade were the restrictions laid on the exportation of corn. At one time no corn could be exported unless leave had first been obtained from the *Real Patrimonio,* a sort of board which issued licenses to a few favoured individuals authorizing them to export corn, but only in certain specified quantities.

Then again the system of taxation was extremely unfair; for the property of the island was valued in the year 1811, at a time when the presence of the English fleet and garrison occasioned a great demand for all kinds of produce, and when prices were consequently high, and this valuation was continued till well on to the middle of the century, when, owing to the fall in the price of agricultural produce, it was equivalent to a tax of some 25 per cent. Burdens such as this were too heavy for the feeble agriculture of the Sicilian peasant. Then again, the greater part of the land belonged to the crown or the church or the nobility, and the tenants were in a condition more like feudal bondage than that of free men, and therefore not likely to develop any advances in their system of cultivation. However, in 1812 and 1838, alterations in the laws were made, whereby these feudal conditions were abolished, and since that date the state of the peasantry has somewhat improved.

The condition of Sicily—and indeed of a great part of Italy—during the first half of the century was a melancholy example of how far human misgovernment and political confusion could go to depress a country to which nature had given great and varied advantages. Added to these, the ignorance and carelessness of the people refused to profit by improvements in method, and consequently they did not obtain even such benefits as they might have done in the circumstances in which they were placed. This was especially the case in the production of wine, where, except in the hands of English directors, very little care was bestowed upon what was a very profitable branch of industry. The district round Marsala has long been the principal centre for the production of wine, and Marsala wine increased greatly in popularity in England during the early part of the nineteenth century. In fact the quantity exported for English consumption rose from some seventy-nine thousand gallons in 1823 to three hundred and ninety-three thousand in 1842, and that, too, at a period when the consumption of most sorts of wine was nearly stationary. Large quantities were also shipped to America. At the same time, this development, such as it was, was due almost entirely to the exertions of certain English firms and capitalists, for the Sicilians themselves took very little trouble in the matter. "The natives," complains one writer, "bestow no care upon the cultivation of the vine; and their ignorance, obstinacy and want of skill in the preparation of wine are said to be almost incredible."

In the same way, too, the amount of profit derived from the cultivation of the olive was by no means what it might have been. Along the north coast the slopes of the mountains and valleys were (as they still are) almost covered with olive trees, but the olives, instead of being properly gathered, were allowed to hang on the trees till they came off with merely shaking them, or beating them with light canes; then they were kept in vats till they got quite black, so that the oil was pungent and rancid, and quite unfit for table use. It was only near the capital and in a few other places that a more sensible process was followed. More care was bestowed upon lemons and oranges, which have always grown in great profusion and have formed a most important article of export. Another important branch of industry has always been the fisheries, of which that at Palermo employs the largest number of men, and about the year 1840 was valued at from twenty to twenty-five thousand pounds sterling annually. The tunny, anchovy, and sardine fisheries of Sicily have long been famous all the world over.

We have thus gained some idea of the condition of

Italy and its dependency of Sicily during the first half of the nineteenth century, but on the whole we have hardly been able to give a record of progress. Compared with the middle ages, it is doubtful whether even now Italy has progressed in all the elements of economic well being, but since the country became more settled and has been united under one government the condition of industry has very greatly improved.

CHAPTER XXXV.

THE PROGRESS OF RUSSIA.

(1) POPULATION AND FINANCE.

We now leave the sunny south and turn to the bleak regions of the north, in order to look at the growth of the largest empire of the modern world. The huge territory of Russia affords food for much thought to the student of the progress of nations; for hardly any other country has loomed so large in the conditions of the present century as this. The growth of Russia has, in the opinion of many, only just begun, yet it already dominates the larger portion of two continents. So far the empire of the Czar has taken a larger place in political than in industrial history; yet when the vast resources which this empire possesses become fully developed, they cannot fail to give it a very commanding place amid the general commerce of nations.

The colossal growth of territory which has characterised the onward march of Russia in modern times began nearly as far back as the sixteenth century. We cannot in the limit of this work, however, do more than refer to its extension in the nineteenth century. The century opens with the formal annexation of Georgia in the year 1801, and by the war of 1807, Russia, although defeated, nevertheless acquired the province of Bjalystsk. The year 1809 saw the acquisition of Eastern Galicia; two years later the whole of Finland was taken from Sweden.

The year 1812 saw Bessarabia taken from the Turks, the next year part of the Caucasus, and very soon after (1815) Poland, were swept into the Russian net. The Persians lost to Russia in 1828 the province now known as New Armenia, and in 1829 more territory was taken from Turkey. The Crimean war (in 1856) stopped for a time this onward march of the Russian empire, and the Czar had even to agree to restore a portion of territory (Moldavia), but, in 1898, this was given back after another war with Turkey. As for Russia's doings in Northern and Central Asia, and, towards the close of the century, in China and Korea, they are simply one long record of acquisition, and if progress is to be measured merely by the amount of land brought under a country's dominion, then Russia would easily take the first place, in the nineteenth century, for progress in annexation.

The growth of territory implies also growth of population. In the last two centuries countries comprising an area of ten times the size of Germany have been acquired, but some of them are only thinly populated. In any case, exact statistics are almost impossible to obtain, for no proper survey or census was taken till quite recent times; and various authorities give various estimates. The most exact gives for European Russia a population of thirty-six million people for the year 1803, in a territory of some seven million square miles (English); this had increased at the half-century (1851) to sixty-five million in much the same area; but in 1870 the population was reckoned at seventy-eight million for an area of nearly eight million square miles. If we take in the Caucasus, Siberia and Tartary, that is, Asiatic Russia, it is said that this portion of the Czar's dominions contained in 1801 only some three and a half millions, but later in the century (1883) the population was over sixteen millions.

One very fair estimate gives for the whole Empire—European and Asiatic—a population of seventy-four millions in 1858, as compared with one hundred and eight millions in 1885. This number is by no means so great as that of the population of the various countries which are more or less under British rule or influence, for in 1891 it was estimated that the subjects of Queen Victoria numbered three hundred and seventy millions. But the population under Russian sway consists of nations in a state of far greater political dependence than are the colonies and protectorates that belong, more or less loosely, to the British crown.

With all this population, Russia has been for the greater part of the century (and, in fact, now is) in financial difficulties. This is due to the comparatively slow development of commerce, and to the backwardness in many parts of active industrial progress; while the heavy military expenditure that has gone on nearly the whole time, has, of course, been a severe drain upon the wealth of the nation. To meet these financial difficulties, there has been a good deal of indirect taxation, and some of the taxes have produced exceedingly unhappy results. This was notably the case with the brandy tax. The duty on wine and spirits has long formed the largest item in the revenue, and of these drinks the one which brings in most to the taxes is brandy. "For forty years past," says a writer in 1880, "it has furnished one-third of the whole revenue of the state." At one time brandy was treated as a monopoly in some provinces, while in others the brandy tax was farmed out; but in the year 1858 a general arrangement for farming out this tax was made. There was at the same time a movement going on in favour of temperance, but, fearing lest this movement should cause a decrease in the returns from the brandy tax, the Russian government of the Czar Nicholas actually forbade the formation of "temperance unions," as they were called. The peasants themselves in many cases realised the evil results of over-indulgence in drink, and some among them made a pledge not to use brandy except in cases of illness or on special occasions such as festive and family gatherings.

Those who farmed the brandy tax attempted, on the other hand, to increase the amount of drink consumed by lowering the prices, and even in some cases by making presents of brandy; but their efforts to promote drunkenness did not meet with the success which they expected. Finding that they could not raise sufficient money to pay the government the amount which they had agreed to give for the privilege of farming the tax, they then applied to the State for assistance. The result was that a ministerial decree was issued forbidding the peasants to make these pledges as to not drinking brandy, and (according to the statement of Prince Dolgorukov) the local police authorities, at the instigation of the brandy-tax farmers, "frequently employed active violence—sticks and staves—to force the peasants to drink brandy."

The result in the end was that the habit of brandy drinking became more prevalent than ever. It has often been said in England that you cannot make people sober by act of Parliament, but in Russia it would seem to be quite possible, by the same method, to make them drunk. A few years later another kind of tax was imposed instead of the brandy duty, somewhat on the lines of the Prussian malt tax, and this also brought in enormous revenues.

It is, however, a striking commentary upon the state of industry in Russia for the greater part of the century, that the revenue should benefit so greatly by the receipts from the drink traffic and so little by honest trade and commerce. The receipts from the customs have always been singularly small, being in the year 1845 only equal to some five million sterling (English), and since that date were for many years, especially during the period of the Crimean war, even smaller. Since about 1870 they have increased; but the trade of Russia with foreign countries was greatly hampered throughout a great part of the century by severely protective tariffs. This was all the more absurd because Russia was, and is, essentially not a manufacturing country, and her normal trade, if left free and open, would be to exchange natural products and raw material for the finished manufactures of countries better able to supply them.

If these high duties were imposed in the hope of increasing the revenue, they have been an entire failure, for the revenue has never benefited by them to the extent which might have been supposed, while on the other hand Russian expenditure has been continually increasing. Two items of expenditure have been specially prominent, namely the national debt and the army; and it is not to be wondered at that these have increased rather than diminished, when we consider the enormous expenses which Russia has from time to time incurred in foreign war.

It may be interesting, in this part of the record of the economic progress of the century in one of the greatest Empires in the world, to glance for a moment at the state of Russian finance. It must be confessed that the story is not one of progress here, unless it be of progress in piling up debts. Going back to the point from which all Russian history begins, the reign of Peter the Great, we find that the revenues of that celebrated monarch were very small, being in 1725 only about one million six hundred thousand pounds English. This was equal to between nine and ten million pounds of our present money.

The principal items of revenue were then the poll tax on every person, the brandy tax before mentioned, the salt tax, and the customs—all, except perhaps the last, being about the worst kind of taxation that could be devised. A Russian statistician of some eminence has stated that the revenue never exceeded about twenty-six million sterling till the year 1839; but in the latter part of the century it has increased very greatly, rising to over ninety million sterling in 1877. This, therefore, shows, at least in later years, some increase in economic prosperity. But even now it is notorious that Russian finance is not in a satisfactory condition, and for very many years the budgets showed continual deficits. In fact, a deficit was the rule rather than the exception, and a Russian writer himself (Sarauw), who had access to official sources, admits that between the years 1815 and 1872 a surplus was found to exist only five times. Every other time there was a deficit. There was a deficit of over three million sterling (English) in 1834 and again in 1840; then in 1846 the deficit was five millions, and two years later over ten millions, equal to a quarter of the then revenue. In 1855 the deficit was only a little less than the whole of the revenue, but of course it must be admitted that this was in a time of war. There was, for the first time for a long period, a surplus in the year 1872. But down to recent years the expenditure has invariably exceeded the income of the State.

In 1843 the Empire was declared bankrupt. The Treasury called in the paper issue of ninety-seven millions sterling, and gave to the holders of paper money only two roubles for every seven they had held in the old currency. This drastic measure, however, does not seem to have done much good, for the new issue began to lose its value in 1864, and some twenty years later had depreciated forty per cent, a paper rouble being worth only sixty silver kopeks instead of a hundred. The total debt of Russia, both internal and foreign, was towards the end of the century (1895) about seven hundred millions sterling—truly an enormo[illegible]ven for that vast Empire.

Even this brief outline of the [illegible]ss—the backward progress—of Russian finance, shows what a terrible burden of debt lies on the inhabitants of the country, nor, as far as the ordinary economist can judge, will any improvement be visible until the general industrial condition of the country makes greater advances. For more than half the century, the Russians were a nation of serfs, and it is only in the last forty years that the masses received personal freedom. Under these circumstances, industrial progress was not to be expected.

CHAPTER XXXVI.

THE PROGRESS OF RUSSIA.

(2) SOCIAL CONDITIONS, AGRICULTURE AND MANUFACTURES.

At the same time, it must be admitted, in fairness to Russia, that a great step forward was made in the emancipation of the serfs. Even now, this act is too recent to have had its full effect, but it can hardly be denied that it marked the dawn of a new era for the Russian nation. The masses of her people are even now steeped in ignorance and degradation; but still more was this the case in the first part of the nineteenth century. A few words are therefore necessary upon the general condition of the people, especially on the question of serfdom. "Russia," it has been well remarked, "is still in one of the most important periods of social transformation. The measure of its importance will be seen by looking at the condition of things which existed till the close of the Crimean war." At that time, no less than nine-tenths of all the arable land in the country belonged either to the Crown, to the nobility or to charitable institutions, and nearly the entire population were serfs or not personally free. The number of serfs was over twenty-three million human beings. Some of the nobility owned extraordinary numbers of serfs, one owning as many as one hundred and fifty thousand; and six nobles had more than twenty thousand each, while a fair number had between twenty thousand and ten thousand serfs.

The curious point about it is that serfdom does not appear to have arisen out of any express law, but out of an abuse of power since the time of Peter the First. "The lot of the unfortunate people became worse as factories were erected, for then the system was adopted of allowing the poor creatures to find employment for themselves and to pay a certain sum annually to their owners. As the Russians are not fond of agriculture many became artisans, shopkeepers, waggoners and so on. Many thus acquired considerable property, for the security of which they had no adequate guarantee. At last, and, as it appeared to foreigners, with unexampled rapidity, the question of emancipation reached Russia. The Government was forced to acknowledge that the vast Empire, notwithstanding its immense size and its endless natural resources, was wanting in the first condition of a powerful state, viz.: a free and numerous peasant and citizen class. The Crimean war revealed unheard-of failings and weaknesses. The bitterness caused by the oppression of the nobles had for a long time led to periodical local outbreaks, generally accompanied by the most horrible barbarities. According to official statements between sixty-six and eighty cases occurred annually, in which nobles were murdered by their serfs, and their castles burnt down."

Hence, when peace was at last concluded after the Crimean war, the question of emancipation became really pressing. A step in this direction was made by the Czar's ukase of 29th December, 1857, the main provisions of which were:—that the landlord should retain his right over his whole estate; that the peasants should keep their fenced-in dwellings, and enjoy the right of acquiring them as their absolute property by the payment of a sum of money within a specified time. They were also to have the usufruct of such land as was necessary for their maintenance, but were to pay a ground rent for it—either in labour or in money—to their lord. At the same time, in order to prevent sudden migrations, the peasants were to remain at first more or less attached to the soil, and would only become free when the Government permitted them to change their residence, under certain conditions.

Not long after the issue of this edict, there came another (19th February, 1861) by which the peasants became personally free, while the nobles granted them land for maintenance upon the payment of a ground rent. The right to inflict corporal punishment also—a point which had often led to great oppression and cruelty in the past—was transferred from the individual noble to the village authorities. The main thing was that the serfs were now personally free; they could even marry without the permission of their former masters; they could buy and sell; they could inherit property, and make a will; but they were not allowed to bequeath any land till after 19th February, 1870.

The actual cost of this emancipation was considerable, for the serfs had practically to buy their freedom, and as they could not be expected to pay for it in full the Government had to help them. The following arrangement was therefore made:—the amount hitherto yielded by the serfs was considered as a six per cent interest, and capitalised; the person entitled to it therefore received a capital of fifteen pounds (English) for a capital of nineteen pounds annually. The peasants had to pay twenty per cent of this directly to their masters; while for the remaining eighty per cent the Government gave partly Treasury notes, and partly guaranteed certificates, both bearing interest at five per cent. Every five years one-third of the guaranteed certificates were exchanged for Treasury notes, so that all were to be withdrawn in fifteen years. On the other hand the peasants had to pay the Government, in return for the advance made by it, six per cent of these sums annually for forty-nine years, by which time the whole of the interest and capital will have been covered. The total cost of the emancipation to the country is given by statisticians as eighty-five millions sterling in English money.

However much inclined certain western writers and thinkers may be to regard Russia as merely a semi-civilised and half-barbarous state, slow in progress and backward in all modern movements, it can hardly be denied by any one who regards the whole circumstances fairly that this emancipation of the serfs has been one of the most remarkable pieces of social legislation of the nineteenth century. It has produced, and is producing, peacefully and not by the violent methods of revolution or of civil war, a social transformation that can only be compared to the change which took place in France after the French Revolution. But it has been accomplished without all the barbarity and bloodshed which must forever disfigure the story of the French Revolution in the pages of history, and without disturbing more than was naturally inevitable the long-established usages of society in the Russian Empire. Russia may still be backward among nations in many respects, but this emancipation meant a gigantic step forward, and in a record of the economic progress of the nineteenth century, it must hold an honoured and an equal place beside the abolition of slavery in the British colonies and in the United States of North America.

We now proceed to notice some of the more salient features of Russian economic and commercial life. First of all, what must inevitably strike the inquirer, is the fact that Russia is essentially an agricultural country. We were told by an eminent statistical authority, quoted above, that the Russians were not fond of agriculture. But whether fond of it or not, they have to live by it, for the eminent authority Wilhelm von Lendheim, in his review of the population of European Russia so late as the year 1877, placed no less than eighty-two per cent of the whole nation in the peasant class. No other class comes to anything remotely approaching this percentage, the next highest figure being the town population, which is just under ten per cent. As the town population includes those engaged in manufactures, we see at once how large a share of the national life is devoted to the land and how little to other kinds of labour. The nobility, it may be observed, only come to a little over one per cent of the population.

Agriculture, then, has been and remains the main feature of Russian national life; and, as is well known, it has always been carried on under a system of commercial ownership peculiar to that country. The greater part of the land is owned by communes or *mirs,* it being a mutual obligation of all the inhabitants to pay the taxes and furnish recruits to the army. Every male living has a claim to a share in the land, this right belonging to him from the time of his birth, though during his minority his father occupies for him. When a person dies, his share reverts to the community. The forests and the pasture lands, however, with the hunting and fishing, are never divided, though the arable land and meadow lands are divided by lot.

This is the main outline of the system, which however contains many other features worthy of more careful description if there were space for it in a volume of this kind. It has been in existence in Russia from time immemorial, and the existence of these peasant republics has rightly been described as "the first and surest sign of Russian nationality." Although it possesses many admirable features, it is not a social condition which could ever be conducive to progress in agriculture; indeed, to the student of economic history, it can hardly appear otherwise than in the light of a survival from a primitive condition of society. Hence one is not surprised to find that Russian agriculture shows practically no progress during the nineteenth century, and certainly not during the first half of it, of which we are now more particularly speaking. At the same time, however, there is to be noticed, since the emancipation of the serfs, a distinct tendency towards private and individual, instead of communal, ownership of land, and it is in this direction that any improvement in the cultivation of the soil must be looked for. But the tendency towards private property in land, though visible, is as yet of very slow growth.

Yet, in spite of these primitive conditions, Russia was for many years famous for her exports of corn, though in later times she has been surpassed by the American Republic. During the century there has even been an increase in the production of different kinds of corn, and an agricultural commission of the "seventies" gave an estimate of the total cereal produce at different periods, which showed that in the period 1840–1847, that is, just before the half century the harvest was about one hundred and fifty-one million quarters (English), while in the years 1870 to 1873 it had increased to one hundred and seventy-eight million.

Although we are accustomed to regard Russia as a great corn exporting country, it is rather surprising to find that of the vast amount of the total produce only fifteen million quarters were exported annually even so late as 1877, while in 1848 just before the half century, there were only one and a half million. Most of the exports have always come by way of the Black Sea, though another large quantity is shipped over the Baltic, and almost as much went over the various frontiers by land. The annual value of the corn export has varied in recent years between twenty and thirty million pounds sterling (English), nor has there been much increase in value in the last decade of the nineteenth century (about thirty-four millions sterling in 1895); but this is because of the great fall in the prices of grain in consequence of the competition of America and India. Of the total grain produce,forty-two per cent was wheat, twenty-five per cent rye, seventeen per cent oats, seven per cent barley and the remaining nine per cent was other grain. While mentioning these agricultural exports, it may be added that the export of flax has always been important, as also hemp.

It is an extraordinary fact that in a country so rich—at least in certain districts—in the produce of the earth, there should have been, till quite a recent period, no good roads and no railways. In an empire the size of which makes it imperative for the well-being of the community that locomotion and transit should be rendered as easy as possible, there have been till quite lately few facilities for either. So backward has Russia been in this respect, that in the first half of the nineteenth century it was quite common for one district to be suffering from famine while another did not know what to do with the superfluity of its products. The fluctuations thus caused in prices were as great as those which sometimes occurred in the middle ages, when roads were few and bad, and railways were quite unknown. Even the Russian minister of domains was compelled in 1847 to point out the ill effects of neglect in the making of roads and facilities for transit, and he stated that, in the same district, at a distance of only eighty-five miles, a measure of rye was worth over thirty shillings in one part and less than five shillings in another part, while export could only be undertaken by provinces quite close to the coast.

The need for better means of locomotion was still more forcibly brought home to the Government by the disastrous experiences of the Crimean War, when the forwarding of troops to the South, and of provisions to supply them, was attended with the greatest difficulties. In the whole of the Russian Empire there were only twenty-five versts or sixteen miles of railway constructed between 1837 and 1843. In 1844 the number rose to 938 versts, but then, for the next thirteen years, practically no further construction was attempted. In 1850 only some three hundred miles were open.

It has only been during the latter part of the century that railway construction has been actively taken in hand, but in the twenty years after 1850 very nearly seven thousand miles of new lines were built, and by 1887 there were eighteen thousand miles. How slow is the progress of Russia, however, compared with an active industrial country like England, in regard to the use of railways, may be seen from the simple fact that in the year last mentioned only thirty-eight million passengers were carried on Russian railways as compared with over eight hundred million on those of the United Kingdom.

From what has already been stated about the enormous percentage of peasantry among the population, it will readily be gathered that Russia has not yet taken any rank as a manufacturing country. Yet, relatively to herself, she has made very fair progress. The chief manufactures have been those of woollen, cotton and linen goods, sugar and brandy, also tanning. The number of manufacturing operatives has certainly increased considerably, though even now very small in proportion to the general population. There were only sixty-nine thousand thus engaged in 1812, but a quarter of a million in 1824, though even so late as 1864 the number had not quite reached the half million. It was not till 1888 that, out of the many millions of Russian subjects, more than one million (exactly 1,134,000) became engaged in manufactures. These figures, however, do not take account of those working in their own homes, so that they do not quite represent the full strength of the manufacturing population.

The chief seats of manufacture are and have been Moscow, Tula, Vladimir, Perm and Kaluga; the woollen trade occupied in 1864 the largest number of hands, then the cotton, next the linen, and last the silk trade; while, apart from textiles, the sugar mills and the manufacture of liquor occupied a large number of people. An official statement in 1882 showed that the output of manufactures had more than doubled since 1864. The drink trade is very large, and it is believed that there are a large number of illicit distilleries in operation, so that of whisky alone the Russians are estimated to drink one hundred and sixty million gallons yearly.

But, apart from drink, Russian progress in all manufactures is greatly hindered by the terrible ignorance of the masses. Even so late as 1875 it was found that half the operatives in manufactories—and these, in every country, are generally supposed to be the most intelligent of the working community—were unable to read. Until therefore the general level of her people, both peasants and artisans, is raised above its present condition, there is not much hope that Russia will come prominently forward in the modern race of industrial and commercial progress.

CHAPTER XXXVII.

THE PROGRESS OF HOLLAND.

We have now surveyed the six great powers of Europe, as they appeared in their economic relationship up to about the middle of the nineteenth century. England, France, Germany, Austria, Italy and Russia have now been considered; but we find the rate of progress far slower in the last three than in the first; and of the whole number, the United Kingdom was, for the first half, if not the first three quarters of the century, by far the most progressive in all the arts of industry. Before concluding this long section of our work, we may mention, just briefly, some of the smaller nations of Europe, and more especially two, which, relatively to their small size, have greatly distinguished themselves in economic progress. These are the two little kingdoms of Holland and Belgium.

The first few years of the century were a period of great tribulation for this small, but till then flourishing, state. The French Republic compelled the Dutch in 1795 to form themselves into a Republic also; and also involved them in the war with England. Then Napoleon I formed Holland into a kingdom under his brother Louis; and again another change was made in 1814 when the Congress of Vienna formed what is now Holland and Belgium into a new "kingdom of the Netherlands;" but finally in 1830 Belgium and Holland became separate kingdoms.

All this political change interfered greatly with the former prosperity of the country, and involved it in a heavy debt. Yet in the middle of the eighteenth century the credit of Holland had been so firm that the two and a half per cent paper money was paid with ten per cent "agio."

But when Louis Napoleon was set upon the Dutch throne the debt had risen to over eighty-three million pounds sterling, and, with others soon added, came to a hundred million. In 1836 the finances were so burdened that it became necessary to declare the colonies a legal mortgage for the State debt; but nevertheless, far from succumbing to difficulties, the Dutch Government made vigorous efforts to wipe off these heavy liabilities, and succeeded in making a very great reduction therein. From 1845 to 1857 the total revenue was over seventy-seven million sterling, while the total expenditure was only seventy-two millions. Much of the wealth of the little state was derived from its East Indian colonies, and no nation has been so successful in making its colonies "pay," in a commercial sense. The amount drawn from the colonies into the State treasury was only sixty-three thousand sterling in 1832, but rose to a million pounds in 1841.

The cause of these increased returns was the great care lavished by the Dutch upon their East Indian plantations, which they have looked after in a way that might with advantage be copied by more celebrated colonising powers. The commercial history and progress of Holland since 1830 is, indeed, very closely allied with the record of colonial trade. Previously to this date the native chiefs had the exclusive rights of cultivation and sold the produce to the Dutch, who merely acted as agents for the European markets. The merchants did not even buy direct from the chiefs, but often made use of native middlemen, whose profits naturally added to the total cost of production. The changes and improvements made at this time, both in traffic and in cultivation, were due to one of the East Indian Dutch governors, named Van den Bosch. He won the favour of the natives by securing them more recognised rights in the produce of their lands and by diminishing the taxes levied on them by the chiefs. In return he arranged that one-fifth of the soil should be devoted to the growth of commercial products, and made various other changes for the better cultivation of the crops and for improved transit of the resulting produce to the various shipping stations. In 1831 he also caused to be planted fifty million additional coffee trees, besides promoting the culture of indigo and sugar.

So successful were his efforts, that production of all three of these commodities increased to a most remarkable extent; that of coffee rose in ten years from less than four hundred to a million cwts. (in 1839); that of sugar from ninety-eight thousand cwts. in 1829 to a million in 1839 and over three million in 1869; and that of indigo from forty-six thousand pounds (weight) to eight hundred and fifty thousand pounds.

The enlightened policy of Governor Van den Bosch was fortunately followed by other governors; and a little later came Chinese settlers who introduced the cultivation of the tea-plant with great success into Java. Tea soon became an important export. Soon also the Javanese cinnamon, cloves and nutmegs began to rival those of Ceylon and the Moluccas, which hitherto had had the most of the trade, while cinchona (for quinine), raw silk from silkworms reared in the island, and cochineal also began to figure largely in the export lists. In sugar and coffee Java soon began to rival even Brazil, while Dutch merchants also brought to Europe such commodities as tobacco, rice, pepper, ginger, turmeric, india-rubber, oil of cajeput, canes, and teakwood. The exports, indeed, showed remarkable progress, rising from fourteen million Dutch guilders in 1831 to forty-one million in 1836, and seventy-six million in 1869.

One result of this was a great increase (as we have seen) in the prosperity of Holland itself, and the seaports of Rotterdam and Amsterdam began to flourish exceedingly. It was the wealth thus gained which enabled Holland to reduce her national debt so successfully, and at the same time a liberal commercial policy aided the growing prosperity of the country. The Dutch have now one of the most moderate of all continental tariffs. The cause of the growth of this free trade policy has been the large export trade in manufactures from Holland to the East Indies in order to pay for the colonial products. As it was impossible for Holland to produce the requisite amount of manufactures itself, it soon became obvious to the Dutch that they had better get them elsewhere, and make a profit as middlemen and carriers, rather than to attempt to protect their own small manufacturers by high tariffs and compete unsuccessfully with more favoured nations. In consequence the Dutch proceeded upon a wise course of reduction of import duties, and the revisions of the tariff which took place in 1845, in 1850 and again in 1854 were all of a more and more moderate nature. At the same time it must not be imagined that Holland is entirely without manufactures, for it has made very fair progress in them, especially in paper, sugar, tol[illegible], and spirits; but the chief sources of its [illegible]alth are its colonial trade and also its agriculture which yields extremely good and rich results.

CHAPTER XXXVIII.

THE PROGRESS OF BELGIUM.

It is to the Belgians, the neighbours and, till 1830, the fellow-subjects of the Dutch, that we must look in order to see progress in manufacturing industry. But the Belgians are not only great manufacturers; they are also most successful agriculturists. Belgium has, indeed, long been the busiest country in Europe, and its wealth is apparent from the fact that it supports the densest population in that continent. It owes much of its prosperity to its excellent system of communications. Although it has proportionately as many railways as England, it does not neglect the great natural advantages which it possesses in its waterways. Its great rivers are busy with traffic, while in addition they are joined into one vast and most useful system of intercommunication by excellent canals. The roads, also, are very carefully attended to, so that with railways, rivers, canals, and highways, Belgium is amply provided with facilities for transit.

The railway system was carried out with much skill and economy, under the control of the Government, "at a time when England was wasting enormous sums over railway schemes devised on no regular plan." The line from Brussels to Malines (or Mechlin) was the first of any importance opened on the Continent, and was made as early as 1835, although a less important line in France (from Lyons to St.

Etienne) had been opened before this. The growth of mileage on the Belgian railways is seen from the following statements. There were in the year 1840 some two hundred miles open, in 1850 there were over five hundred, in 1860 over a thousand, and in 1870 nearly two thousand. This, for a small country, is a very large figure. Unlike the railways of many other Continental countries, those of Belgium have always shown a good profit, amounting to some forty million pounds sterling in the fifty-three years from 1835 to 1887.

How well they have been used is seen from the fact that in 1888 there were over seventy-three million passengers carried, which is very nearly double the number for the whole vast empire of Russia about the same date.

The manufacturing progress of Belgium has also been very great. At the time of the severance from Holland in 1830, there was considerable scarcity of capital, in consequence of the wars and the political troubles which had prevailed in the earlier part of the century; but the cause of industry was greatly aided by the establishment of the Société Générale de Commerce by the Government. This society had powers to make advances of capital for carrying out industrial objects, and a National bank was also founded. In spite of a financial crisis in 1837–38, when the Bank of Belgium suspended payment, and numerous failures occurred in commercial circles, the march of industry went steadily on with but few halts.

The manufacturers of Belgium have the very great advantage of a ready supply of coal in the country itself. In this Belgium resembles England, for it has a vast coal field extending for many miles along the frontier which separates it from France, Next to England, in fact, Belgium is the oldest coal-producing country in Europe. "The extent of the layers of coal, the density of its population, the importance of its manufactures, the number of its hands, and lastly, the high development of its railway system, have united in placing Belgium in the fifth rank of coal-producing countries." This, too, in spite of its small size. Yet coal is not so easy to mine in Belgium as in many other lands, for it often lies very deep, and the conditions of extracting it are not always very favourable. But the output has steadily progressed with the century. In the first twenty years of the nineteenth century some eight million tons were extracted; in the next twenty about forty-seven million; in the next ten (1841–50) fifty-one million; in the next decade eighty-two million. But in the period 1881 to 1889 even this large figure was nearly doubled and one hundred and sixty million tons were produced; which is only thirty million less than the whole of France.

It is regrettable, however, that the condition of the mining population in Belgium was not satisfactory from a social point of view, as all the abuses of the English mines were rife in Belgian collieries also. There was, for instance, as late as 1866, far too large a proportion of boys, women and girls working in the underground passages, the numbers of these per thousand being seventy-six women, one hundred and twenty-eight boys and fifty-five girls; and of those who worked above ground the proportion was even larger. There were about one hundred thousand workpeople employed at this period in this industry.

The manufactures of Belgium, as is well known, have made very great progress during the century. This was only to be expected from the energy of the inhabitants and from the large supplies of coal—and also of iron—which have been available, while the excellent system of railways and other means of communication have all contributed towards the general result. The produce of the smelting works, for example, increased in value from some two million pounds sterling (English) in 1838 to over five million in 1860. The glass manufactures are also important, especially in the province of Hainault, but of manufactures other than textiles those of ironwork and machinery have perhaps made the most striking progress. In 1816 an Englishman, named John Cockerill, introduced the method of smelting with coke, and founded at Seraing one of the finest ironworks in Europe.

The industry made a great advance after the year 1830, but its most striking progress was developed after 1850. Official returns show that some fourteen thousand operatives were engaged in ironworks in 1845, but in 1860 there were twenty-six thousand and in 1870 over forty thousand. The output rose from sixty-two thousand tons of iron in 1845 to more than half a million in 1870, while since then it has increased to a still greater amount. The exports of iron and steel also increased to a very great extent; and the iron and steel manufactures are now worth to the country some ten million pounds sterling.

As regards textile fabrics, Belgium shows the same record of progress. Considering the small size of the country, manufactures were very flourishing as early as 1830, for as many as twelve thousand steam engines were in use, employing twenty thousand horse-power. But since then the steam-power employed in factories has increased enormously; in the year 1860 it was one hundred and sixty-two thousand,

and in 1880 two hundred thousand. In 1838 the cotton manufactures employed a large number of persons (about one hundred and twenty-two thousand), and so did the linen trade, but the latter, though flourishing, did not increase in the same proportion as the cotton trade. Next to cotton in 1838, but a good deal below it in value, came the manufactures of woollen goods and hosiery. Between the years 1846 and 1880 it was noticeable that the number of operatives engaged in nearly all branches of industry increased—as in collieries, ironworks, potteries, cotton and woollen mills—but those engaged in the linen trade declined from sixty thousand to fifty thousand.

At the same time the flax and linen trade, though it has not increased so fast as the others, has always been one of the typical manufactures of Belgium, and was and is very valuable. In 1835 there were over a hundred thousand acres under flax, and the factories turned out ninety million yards of linen. About the year 1880 the number of acres under flax was less (about ninety-eight thousand acres), while the production of linen was more (about one hundred and twenty million yards). The export of linens averaged for the ten years ending in 1887 about eight hundred thousand sterling pounds annually. In cotton the number of miles of cloth made has increased to a much greater extent, namely from two hundred thousand miles in the period 1821 to 1830 to over a million miles in the period 1871 to 1880.

All these figures show how large a share of wealth accrues to Belgium from her manufacturing progress; but it must not be forgotten that the agriculture of the country is also an important item of national wealth, and employs a very large share of the total labour of the population. Belgium produces a very large amount of grain for its size, the average acreage under grain having remained more or less at two million acres since 1856, though with a tendency to decline. The acreage under potatoes has increased somewhat, but that under beetroot (for sugar-making) a great deal. Nearly a million and a half tons of grain are now annually grown, two and a half million tons of potatoes, two million tons of beetroot, and five million of hay. Of the total population of Belgium in 1856 the number of adults engaged in agriculture was rather more than a million out of a total adult population of two and a quarter million, which was about a quarter of a million more than were engaged in manufactures. (This is without counting children.) Even as late as 1880, in spite of the growth of manufactures, the relative proportion was much the same. The land is excellently cultivated, and there is a large number of peasant proprietors.

We have thus seen that both Holland and Belgium have progressed with the century, and now they contain a population which in all the elements of material welfare compares very favourably with that of any other European country. We have not space here to go fully into the details of the industry of other European nations, such as Spain, Greece and Turkey, nor does their progress in industry and commerce necessitate an exhaustive treatment in their case. We shall see later, in a general review of the end of the century, how these countries have fared. We now pause, for a short space, in our survey of progress, to record what may be termed a great landmark in the history of industry, which, coming as it did just at the middle of the century, forms a useful as well as interesting fixed point from which to judge the activity of the great industrial and commercial nations of the world. We refer to the Great Exhibition of London in the year 1851.

CHAPTER XXXIX.

SOCIAL PROGRESS AND THE CONDITION OF THE MASSES.

So far we have traced the history of commercial and industrial progress up to quite the middle of the nineteenth century. We have taken England, the United States and the chief European nations, and seen how far they had advanced—or in some cases, perhaps, gone back—since that century began. We now adopt a slightly different mode of treatment, and will consider how the condition of the great masses of the people has been affected by the many industrial changes which the nineteenth century has witnessed; and how far that condition has been altered for the better or the worse.

On the whole, we may confidently say it has been altered for the better; at least in the latter half of the century, though even the warmest admirers of industrial progress cannot fail to look back with regret to some portions of modern industrial history, when the condition of many of the working classes seemed to alter very much for the worse compared with what it had been in days when the circumstances of their lives were modified by a totally different environment. We shall find that wages have, on the whole, and in nearly every country, increased rather than diminished, though of course the mere money paid in wages is not by any means an exact criterion of their actual value. If we wish to know what wages are worth, we must discover their purchasing power, and see how much of the necessaries of life they would procure at different periods. There was, for instance, a period in English history when the wages of a labourer were only sixpence a day; but at that time when those wages were given meat was only a penny a pound, and other food proportionately cheap.

We must also take into consideration the fact that the "standard of comfort" has risen considerably in many countries during the last hundred years, and that therefore, even if prices had remained the same, the amount paid in wages might not represent the proportion of ordinary comfort which a man might reasonably expect to attain. There can be no doubt that, on the whole, the cost of living has materially increased in every civilised nation in modern times. It is not that prices have risen to any great extent, though, on the whole, a rise has been manifest, but also people have a higher standard of comfort. They expect more variety in their food, as well as better quality; they expect to be better housed; they expect their towns to be more healthy and pleasanter to live in; and all these things have somehow to be paid for. Hence, in dealing with the increase of wages in the following paragraphs, we must not always assume that their purchasing power is necessarily greater, or that a higher wage represents a real surplus of receipts over a lower wage at a previous period. If there are increased receipts there is also increased general expenditure; and the labourer of to-day is not contented with what satisfied the men of an earlier generation.

With these prefatory remarks we may begin our view of the progress of the working classes during the nineteenth century with a conspectus of the wages of various classes in England, the United States and France in the first quarter of the century (1825). Reducing all the various currencies to the same denomination, namely English shillings, we find that in every case those in the United States were higher than in England, and those in England higher than in France; though it may here be remarked that, in a new country, wages are nearly always higher than in an old one. Taking the ordinary farm labourer, we find he got no less than thirty-eight shillings a month, with food, in America, as compared with twenty-seven in England, and only twenty in France. This may be taken as typical of the ordinary, unskilled labourer. A more skilled artisan, such as a carpenter, got six shillings a day in the States, and four shillings a day in England, but only half a crown a day in France. A mason got a little more, namely six and eightpence in America, four and sixpence in England, and three shillings in France.

When we come to manufacturing operatives we do not find quite the same proportions prevailing. An average cotton spinner obtained five shillings a day in the States, four shillings in England and three shillings and sixpence in France. This shows, that, as manufacturing work with machinery is much the same wherever it is carried on, there is not so great a difference in the amount which the worker receives. What divergency exists is fairly well accounted for by the cost of living in each country or by the demand for that particular kind of labour, as compared with the supply. It is curious to notice that of all the wages given for this year (1825) those of woollen spinners most nearly approximate to each other in different countries. Thus, a woollen spinner got four and sixpence a day in the States, and three and ninepence a day in England, while the French spinner got very much the same, viz.: three shillings and eightpence. A weaver, on the other hand, gained rather less than a spinner, the rates being only three and ninepence a day in the States, three shillings in England, and two shillings in France.

Of course, however, these figures are not of much use unless we see whether, since 1825, any progress has been made. In the case of farm labourers it is pleasing to notice that improvement has been the rule throughout. We have already seen the rates for the first quarter of the century; we now turn to the year 1850; and we find that the English labourer obtained in that year an average of nine shillings and sixpence per week, the American sixteen shillings, and the French labourer nearly the same as the English, his rate being nine shillings. We go twenty years further, and look at the rates for 1870, and again we find another increase. At that period the labourer got in England fifteen shillings a week, in the States twenty shillings, but in France only twelve and sixpence. Yet this last was an improvement upon the previous French rate. Ten years later (1880) we find the French rate has risen again to fourteen shillings, the English to seventeen and sixpence and the American to twenty-five shillings.

We are able also now to quote the wages of German labourers during the latter part of the century, since 1850, but it is noticeable that they are lower than any of the others. They were only eight shillings and sixpence a week in 1850, ten shillings and sixpence in 1870, and twelve and six in 1880. It is noticeable that agriculture in Germany was backward compared with that in France or England—and of course as compared with the United States—so that it was not possible for the labourer to get such a rate as he would in a more advanced country. But even here progress has been made and the ordinary labourer receives more than he did at the beginning of the century.

We must now take some other typical employment, in order to compare the wages for different countries in the case of manufacturing operatives. We are fortunately able to find a fairly complete table for the woollen trade, and from this we see that, compared with the figures of 1825, a general advance has been made. In the year 1880, to which this latter table refers, the English woollen weaver got thirty shillings a week, as compared with eighteen shillings in 1825; the United States weaver got thirty-five as compared with twenty-two and sixpence; the French weaver got twenty-four, as compared with twelve, so that the last obtained the greatest increase of any.

There is another very useful table of statistics compiled by Mr. Young, which gives the average rate of wages in different occupations for all Europe, and we certainly find there that, whatever class of workman we take, there has generally been an advance in his pay. This is apparent in the case of unskilled as well as skilled labour, which shows that progress has been fairly general. Thus a boilermaker in the period 1830–39 only obtained a sum amounting to an average of thirteen pence per day; but in the next ten years the average rose to fifteen pence, in the next to seventeen pence; in the next period (1860–65) it rose to twenty-one pence, while in the year 1872 it was as high as thirty-one pence. The wages of the ordinary mason were more than doubled between the same dates. From an average of fourteen pence a day in 1830 to 1839, they rose to sixteen pence, then to twenty pence (1850–59), then to twenty-two (1860–65), and in the last year given (1872) were thirty-two pence. Even in one of the poorest of European countries, Italy, a bricklayer's wages, which do not represent skilled labour of a high order, rose from fifteen pence a day in 1850 to seventeen in 1857, and by the year 1874 were more than double that, standing, in fact, at thirty-five pence a day.

Turning to manufactures, the wages of the spinner averaged in the period 1830 to 1839 about fourteen pence a day—by no means a large amount—nor did they rise to more than fifteen pence during the next ten years. After the middle of the century, however, (1850–59) the amount rose to nineteen pence, then to twenty-two pence in 1860–65, while in the year 1872 they stood at twenty-seven pence. This is almost double the figure at which they stood in the earlier part of the century, so that here, as elsewhere, we notice a tendency for the reward of labour to increase.

But, as mentioned above, the true test of the value of wages is their relation to prices. This is very difficult to ascertain, as even though prices may be less than before, the wants of the workingman may be—indeed are—more numerous. But in 1880 there was published a table (quoted by Mr. Mulhall, the eminent statistician), showing not only the weekly wages in various countries, but also the average expenditure on food, so that a comparison may be usefully made. In Great Britain a man earning thirty-one shillings a week, which is taken as the average weekly wage of the ordinary labourer, spent about fourteen shillings on food, thus leaving him a very fair surplus for other purposes. His food cost, thus, less than half his wages. In France the average wage is twenty-one shillings, and the cost of food is twelve, or rather more than half the income. In Germany the wages were put down at sixteen shillings, and the cost of food was ten—nearly two-thirds of the total. Then comes Belgium, where the wages are given at twenty shillings, of which twelve go for food, this being much the same as in France. In Italy the wages are very low, being only fifteen shillings a week, and though the cost of food is low also, being only nine shillings, the surplus left after getting the necessaries of life is not very great. Spain comes out practically the same as Italy, each total being just a shilling more, so that the surplus is the same.

But when we come to the United States we find a very different condition of things, for the workingman has much more to spend upon other things than food. There his weekly wages are given at an average of forty-eight shillings, of which only sixteen are spent on food, thus leaving the large surplus of thirty-two shillings for other items. In Australia very much the same figures are given, wages being forty shillings and food only eleven, thus leaving twenty-seven shillings surplus.

From this table it will be seen that in several European countries the labourer gets comparatively low wages and has to spend a large proportion of them in food, leaving him very little for his house rent, clothes and the comforts of life. But in the United States and Australia, he spends only a very small proportion on food and has a good deal left for other purposes. Of course in these two last named countries, house rent and clothes are comparatively dear, but a general survey of the condition of the working class here shows us that they have a far higher standard of comfort than those of any European country, and expect, as part of their daily surrounding, far more than is ever attained by their less fortunate brothers in the Old World. The amount of surplus in Great Britain, though not so large as in America and Australia, is still very considerably more than that of any of the adjoining European countries. Yet, wherever we look, whether the rate of wages at the close of the nineteenth century seems to us low or high, it is certainly higher in proportion, in nearly every country, than it was when the century commenced.

One point about the expenditure necessary for the workingman which ought to be noticed is the rise in two important items that has occurred during the past fifty or seventy years. That is the rise in rent and the price of meat. Yet, in spite of this, the workingman has more to spend than he used to have, because, though these items have risen, other items have gone down. However, if his rent has risen, it is, in part at least, due to the fact that better accommodation is given. The homes of the working classes may not even yet be all that can be desired, but they are a good deal better than they used to be, as we shall see in another paragraph. As for meat, even though it costs more—at least in England—somehow or other the working classes are able to buy a greater quantity of it than they were able to do at the beginning of or even halfway through the century. The talented author of *Industrial Freedom,* Mr. Wise, who has had experience both in an old country and a new one, both in England and Australia, unhesitatingly declares that the workingman of to-day is better off than he was even so recently as sixty years ago. He gives a table of the average necessary expenses of a workman, with a wife and three children, in the years 1840 and in 1890, and the two tables are so interesting that we make no apology for reproducing them here.

The following are the items and prices:

YEAR 1840.

	S.	D.
8 quartern loaves	5	8
8 pounds meat	4	4
1½ pounds butter	1	6
1 pound cheese	0	7
2 pounds sugar	1	2
½ pound tea	1	6
1 pound soap	0	5
1 pound candles	0	6
1 pound rice	0	4
2 gallons milk	0	4
Vegetables	0	6
Coals and firing	1	0
Rent	4	0
Clothes and sundries	3	0
Total	24s.	10d.

We now take the same items in the year 1890.

YEAR 1890.

	S.	D.
8 quartern loaves	4	0
8 pounds meat	6	0
1½ pounds butter	1	9
1 pound cheese	0	8
2 pounds sugar	0	4
½ pound tea	0	4½
1 pound soap	0	4
1 pound candles	0	5
1 pound rice	0	2
2 gallons milk	0	8
Vegetables	1	0
Coals and firing	1	6
Rent	6	6
Clothes and sundries	3	0
Total	26s.	8½d.

Here it will at once be seen that the expenditure on the total is rather more in the later table than in the earlier, but on the other hand the average wages of the class of workmen here taken as an example (in this case a carpenter) have increased considerably, for whereas in 1840 he would get only twenty-four or twenty-five shillings, the rate in 1890 was twenty-eight to thirty shillings. The cost of tea and sugar, it will be noted, has greatly decreased during the century, and nowadays, in England, the consumption of these two articles has increased very greatly indeed upon what it was a generation or two ago.

CHAPTER XI.

PROGRESS OF THE WORKING CLASSES—FURTHER EXAMPLES.

Before leaving this general section of the subject of the progress of the working classes, we may take examples from France, Germany and Italy, as typical Continental countries, and in even the poorest of them, Italy, we see an increase. We are able to trace the course of wages in France from several authorities, well back into the eighteenth century, but it will be sufficient to take the period of the great French Revolution as a starting point. At that time (1790), the daily wages of a farm labourer were only equivalent to twelve pence (English), whereas in the middle of the nineteenth century they were (in the year 1850) twenty pence, and towards the close of the century, twenty five. A builder got, even at the time of the Revolution, about twenty pence a day, and in 1850 did not get much more, having only twenty-two, but towards the close of the century the rate is thirty-five pence. A carpenter's wages were much the same.

When we come to look at the amount of food consumed by the working class in France, we find that their standard of comfort has greatly improved during the century, for it is a curious fact, confirmed by statistics from more than one source, that the French now eat much less bread than formerly, while their consumption of the comparatively expensive articles of meat and wine has shown a very decided increase. We turn now to Germany, where, as we have indicated, wages tend to a lower level than France, though not so low as some other European countries. The well-known economist Yves Guyot has compiled a table of wages in the spinning trade in South-Eastern Germany which gives a very fair idea of the remuneration of average labour, somewhat higher than that of the unskilled classes. Here the overseers, who are of course skilled workmen, have reached, towards the close of the century, a very fair rate of wages; a rate also which is double that of an earlier period. In the year 1835 overseers only got twenty-eight pence a day; twenty years later they obtained forty-two pence, and in 1880 they got no less than sixty pence (five shillings). This shows a very considerable advance.

In the same way, another class of the same spinning operatives, namely cardmenders, have succeeded in doubling their wages between the beginning of the century and the end of it, the pay for their labour having risen from thirteen pence a day to twenty-six. We have not the same accurate statistics for agricultural labour, but the ordinary day labourer has been estimated to have received in Germany only about eight pence a day in 1835 as compared with eighteen pence a day in 1880; so that here again there has been good progress in the condition of the working classes. However much the prices of food may have risen in Germany—and they have certainly risen in later years—they have not risen so much as to counterbalance the increase of wages. Moreover, it is again pleasant to notice that in Germany, as elsewhere, the amount of meat consumed per head of the population has, during the latter part of the century, continually tended to increase. As meat is perhaps the most expensive item of human food in these countries, this is good evidence that modern workmen are able to purchase more of the necessaries and comforts of life than they did a few decades ago.

We see a similar advance if we take Italy, one of the poorest of the nations of Europe which yet hold a prominent place in international commerce and industry. Italy is not so poor as various other European lands, but then these others, such as Greece, Servia, Spain and the rest, cannot be ranked among the "Great Powers," among which Italy, though with some difficulty, still holds a place. In Italy, then, an average of the wages of some twenty different classes of operatives shows a really rapid rise since the middle of the century. Taking a weekly basis, we find that the workingman in Italy got in 1847 only about seven shillings and sixpence; but in 1866 this average had risen to ten shillings, and in 1896 to a little over twelve shillings; though since 1876 there has not been a very noticeable increase. But in the twenty years ending in 1883, Italian spinners and weavers in factories had nearly doubled their wages; the rate rising from about ten pence a day for spinners and twelve pence a day for weavers in 1862 to over twenty pence for the former and twenty-two for the latter in 1884.

A still more interesting fact is the comparison of how many days it takes a labourer to earn enough to pay for a ton of grain at different times in the nineteenth century. Although grain is by no means the only food of man, the fact of taking a unit like this affords a useful measure wherewith to gauge the purchasing power of wages. According to this calculation, by Professor Bodio, it took a workman in the year 1862 about 181 days to earn enough to pay for a ton of grain. In 1872 it took him 166 days, though in between these dates, the amount of time had varied rather according to the variations in the prices of corn. But still there has been a continual tendency for the number of days required to earn the ton of grain to decrease, so that in 1881 and in 1882 it only took 106 days, and in 1885 only eighty-two days.

Thus, in other words, the Italian labourer at the close of the century is able to procure the same quantity of food with far less work than was the case formerly. He gets more return for his labour, so that the same amount of work enables him to earn more easily than before the comforts and necessaries of life. This is proved, indeed, by statistics, which show that the amount of wine, meat and grain consumed by each inhabitant has increased during the century. It has not, perhaps, increased so much in Italy as in more fortunate countries, but still the increase is there, and nothing gives a better test of the higher level now demanded as the "standard of comfort" than these figures of the amount of food which a workingman is able to purchase and consume.

The nineteenth century, then, both in the Old World and the New, has brought with it an amelioration in the lot of the labourer. Such amelioration has been indeed only what ought to have been expected, considering the enormous strides made by the arts and sciences of commerce and of civilisation, and the labourer has only benefited in common with the general growth of wealth, about which we may have more to say later. Even now, in many countries, and in many parts of one and the same country, his condition is by no means what the more advanced social reformers would like to see at the close of a century remarkable for progress in every department and phase of life; but still, when all has been said, it must be acknowledged that Labour holds a far better position at the close of the century than at the beginning of it, and the lot of the labourer, though not perhaps always enviable, is still by no means so pitiable as it was in so many cases in the days when the century dawned.

We are apt to forget perhaps the terrible state to which large masses of the working classes had sunk at the opening of the nineteenth century. In many countries, such as Austria and Germany, the position of peasants was only a few degrees removed from the serfdom which, in Russia, was open and avowed. In nearly all, the masses of the population were crushed and depressed by the enormous burdens of taxation rendered necessary by the internecine wars which shook the Continent for the first fifteen years of the century's course. In France, the peasantry, and the working classes generally, had only just released themselves from a most cruel and degrading oppression upon the part of their superiors. The French Revolution, with all its terrible deeds of savagery and butchery, yet sounded the note of freedom for labour; and though freedom does not always mean more wages or better conditions of life, yet if one must be poor, it is better to be poor and free than both a pauper and a slave.

There can be no question, however, that, on the whole, the condition of the masses in every country of Europe has been greatly improved. But one may wish that, in tracing the onward progress of the working classes, the historian had not to begin at such a low level as he finds at the beginning of the nineteenth century. Progress there has been, and in some cases it has seemed marvellous, but in too many it has only seemed so great because the story of progress begins so low down in the scale. In other words, when the previous conditions of a class are so bad that they cannot become much worse, then progress can hardly be avoided, if any change for the better is made at all. If we are compelled to start, so to speak, at zero, then very little advance will count as progress; but the progress thus counted is of course not so real and so significant as if it had begun a little higher up on the scale.

These general reflections will be understood more clearly if we take a concrete case—a case where progress has been made from a condition of things, which (it is hoped) could hardly have become worse, but which, in the ordinary course of civilisation, ought to become—and fortunately did become—much better. The case we may take is that of the factory operatives of Great Britain; and we take this case partly because Great Britain has been *par excellence,* during the greater part of the century, the typical manufacturing country of the world, and partly because the facts are more accessible and better authenticated than in any other country. Incidentally also, the story of the factory hands is a very important chapter in the history of the Progress of Labour, as well as in the history of the relations between Labour and Capital, and Labour and the State at large.

CHAPTER XLI.

THE FACTORY WORKERS OF GREAT BRITAIN: A STORY OF MISERY AND PROGRESS.

THE growth of the factory system has already been described. We have seen how the conditions of manufacture under the new régime, where machinery was used in large mills, and where the mills were necessarily placed on or near the great coalfields, drew large masses of its population into the towns of Lancashire and Yorkshire, and other parts of England where coal could be readily mined. But the system of collecting workers in factories, now so familiar as to seem to us the normal conditions of industry, had another effect of a very different nature. The new machinery in these mills could be worked to a very large extent by the aid of children, and of young women, as well as by men. So early as 1795 a Manchester writer, who took much interest in the conditions of the surrounding population, speaks of the changed condition of affairs. He declared that domestic life among the working classes was becoming seriously endangered by the fact that so many young women and girls were attracted to the mills in their youth, and therefore, when they were married, had no experience of household work, and thus did not make frugal wives and mothers. The women, he observed, did not know how to sew or knit or to do ordinary household duties, and compared very badly with the women of agricultural districts.

But this was not all. The supply of young people and children in some of the manufacturing districts does not seem to have been equal to the demand, and therefore the mill-owners sought for labour elsewhere. They succeeded in obtaining it from the workhouses. It had for long been the custom for the workhouse authorities to apprentice children in their charge to various trades, and now they began to apprentice them wholesale in the factories. A regular system of apprenticeship sprung up, which in many respects was little else than undisguised slavery. Mill-owners would arrange with overseers of the poor in different parishes to send them a number of workhouse children, who were conveyed to their destination in quantities by waggons or canal-boats. Or sometimes, agents who made a traffic of thus procuring apprentices would collect together a lot of children from various parishes and transfer them to a factory district where they were likely to be wanted, and there they would keep them till they could get rid of them to some manufacturer in need of "hands."

Very often the children were kept in some dark cellar, where, we are told, "the merchant dealing in them brought his customers, by the light of lanterns being able to examine the children." Then, when "their limbs and stature had undergone the necessary scrutiny, the bargain was struck, and the poor innocents were conveyed to the mills." The fate of these poor children on their arrival on the scene of their future work is thus described by the author of a book entitled *The Curse of the Factory System:* "The custom was for the master to clothe his apprentices and to feed and lodge them in an apprentice house near the factory. Overseers were appointed to see to the work, whose interest it was to work the children to the utmost, because their pay was in proportion to the quantity of work they could extract. Cruelty was of course the consequence; and there is abundance of evidence on record, and preserved in the recollections of some who still live, to show that in many of the manufacturing districts, but particularly, I am afraid, in the guilty county (Lancashire) to which I belong, cruelties the most heart-rending were practised upon the unoffending and friendless creatures who were thus consigned to the charge of master manufacturers. They were harassed to the brink of death by excess of labour; they were flogged, fettered and tortured in the most exquisite refinements of cruelty; they were in many cases starved to the bone while flogged to their work, even in some instances they were driven to commit suicide to evade the cruelties of a world in which, though born to it so recently, their happiest moments had been passed in the garb and coercion of a workhouse."

Even in those factories where "excellent regulations" were supposed to prevail, the state of things was most deplorable. A model establishment of this kind was a mill at New Lanark in Scotland owned by David Dale, but passing at the close of the eighteenth century into the hands of Robert Owen, once celebrated as a social reformer. Owen gives details of what he found there. About five hundred children were employed at this time, and these poor little wretches had been sent from the workhouses—incredible as it may seem—at only six years old, since the parish authorities declined to send them at any later age. These children had to work the same hours as the other operatives in the mill; namely, from six in the morning to seven in the evening. "The inevitable results followed. The poor children hated their slavery; many absconded; some were stunted and even dwarfed in stature; at thirteen or fifteen years old, when their apprenticeship expired, they commonly went off to Edinburgh and Glasgow, with no natural guardians, ignorant of the world beyond their village, and altogether admirably trained for swelling the mass of vice and misery in the towns."

As for those places where "excellent regulations" did not prevail, the condition of these pauper apprentices was too horrible to record in detail. Stories are told of how boys and girls fought for food from the wash-tubs disdained even by the pigs; how the children were crowded for sleeping purposes in houses or huts where decency was quite impossible; how they were beaten and tortured relentlessly by the overlookers when their strength began to fail them and they felt the inevitable results of overwork; how they were even compelled to wear chains to prevent them from running away from their cruel toil. It is almost impossible to produce any sadder or more harrowing facts even from the annals of American slavery of the negroes; and it would seem almost incredible to us at the close of the nineteenth century that such cruelties were allowed to go on if we did not have the facts set down in solid evidence in the Blue Books of Royal Commissioners appointed to investigate the case.

But it is unfortunately only too true that these dreadful miseries were endured not only by the children in the factory districts, but also by many others employed in mines, potteries, in agriculture and many other branches of industry. It was not till the nineteenth century was almost half over that a Children's

Employment Commission was appointed to investigate the conditions under which children were compelled to work, and they found an appalling state of affairs, even outside the factories. Fortunately the cause of the apprentice children had been taken up long before the Children's Employment Commission of 1840 was even thought of. In 1802 an Act was passed, owing to the influence of Sir Robert Peel, "for the preservation of the health and morals of apprentices and others employed in cotton and other mills." It is significant that the immediate cause of this bill was the terrible spread of epidemic disease through the factory districts round Manchester, owing to the scanty food, long hours, bad ventilation and general insanitary conditions in the mills, as well as even worse conditions in the homes of the workers. Their miserable surroundings predisposed them to disease, and fevers and other illnesses became terribly frequent. The hours of work were, by this Act, reduced to only twelve per day, whereas formerly fourteen, sixteen and eighteen hours a day had been by no means uncommon.

Unfortunately the provisions of this Act did not apply to any children except apprentices, so that, though it benefited these, it did little for the children who were sent to the mills by their parents. These were supposed to be under their parents' supervision, but they were treated almost as brutally as the others, until at length their sad case attracted the attention of a humane band of men known later as the Factory Reformers, who, amid a storm of opposition and misrepresentation, succeeded in winning better conditions of work for the young. The most prominent of these Reformers were Robert Owen, Slater, Richard Oastler, Michael Sadler, and Lord Ashley, afterwards Lord Shaftesbury.

Some idea of the condition of factory children early in the nineteenth century may be gained from the evidence of Robert Owen, who, in 1815, took a journey through the factory districts in order to see for himself what was going on. "The facts we collected," he says, "seemed to me terrible almost beyond belief. In some huge factories from one-fourth to one-fifth of the children were cripples or otherwise deformed, or permanently injured by excessive toil, sometimes by brutal abuse. The younger children seldom lasted out more than three or four years without severe illness, often ending in death." But although Owen made several efforts to bring the harrowing facts before the notice of the public, he met with little success, and it was left to others to succeed in rousing popular opinion to the need of factory reform. It was rather Richard Oastler who made the question of the factory children one of public interest, and from the year 1830 onwards the agitation in favour of shorter hours and better treatment for the young in the factories began to assume dimensions of real importance.

The political leader who undertook to plead the children's cause in Parliament was Lord Ashley, better known by his title of the Earl of Shaftesbury; and the name of this nobleman became familiar to all who had social reform at heart. He was preeminently the friend of the children, and sorely indeed at that time did the children of England need a friend. The contest he had to wage was undoubtedly a bitter one; on the one hand was the apathy and ignorance of the public outside the factories as to what went on inside; on the other was the strength of vested interests, whose owners imagined that any reform would severely curtail their profits.

For some years the question occupied public attention more or less fitfully, but in 1832 a Committee was appointed to investigate the evils complained of, and the revelations of misery and brutality brought before it were so shocking that at last even public opinion was aroused.

Some of the evidence was almost incredible; that is to say, incredible when we consider that it referred to acts perpetrated in England upon children of English parents, and not upon unfortunate slaves in some American or West Indian plantation. Here is a portion of the evidence of an overseer in a factory in Scotland. "There were," he admitted, "a great many children in proportion to the adults, and most of them were orphans. There were some orphan children from Edinburgh who had been in the mill four or five years. The children were incapable of performing their day's labour well towards the close of the day; their fate was to be awoke by being beaten, and to be kept awake by the same method. They were guarded up to their bothies (or huts) to take their meals, and were locked up in the bothies at night, and the master took the key away with him to his own bedroom. They were guarded to their work, and they were guarded back again; they were guarded while they were taking their meat, and then they were locked up for rest. They were not allowed to go to a place of worship on the Sunday. There was one bothy for the boys, but that did not hold them all, and there were some of them put into the other bothy along with the girls. The ages of the boys that were put into the girls' bothy might be, I should suppose, from ten to fourteen; the ages of the girls perhaps from twelve to eighteen. The children and young persons were sometimes successful in their attempts to escape from labour and confinement. I have gone after them on horseback, and brought them back myself. Those brought back were taken into the mill, and got a severe beating with a strap; sometimes the master kicked them on the floor, and struck them with both his hands and his feet. . . . When the hands worked those long hours, the master came himself and roused them in the morning, and those that would not rise, I have seen him take a pail of water and throw it upon them to make them rise."

Similar evidence came from the Yorkshire and Lancashire factories. One boy, who was only one of many other witnesses, told how he worked at a mill where the hours of labour were from five in the morning till eight at night, with only an interval for "rest and refreshment" of thirty minutes at noon. Meals had to be taken as best they could, either standing or at work. This boy when *seven* years of age used regularly to have to work fourteen hours and a half every day. There were in this factory three overlookers, and the main business of one of them was to beat the children with a strap kept for the purpose to make them work.

When trade was brisk, overtime was worked; which meant that these miserable children worked in the mill from five in the morning till half-past ten or eleven at night. A young woman of twenty-three years of age, working in a flax mill, gave evidence of the same cruel condition of things there as in the cotton and woollen mills. She told how the girls who were in this mill were constantly beaten by the overlooker with a strap if they grew slow in their work; while her own experience in what was known as "web spinning" was, as she mildly described it, "uncomfortable." "I have stood before the frames till I have been wet through to the skin; and in winter time, when myself and others have gone home, our clothes have been frozen and we have nearly caught our death from cold. We have stopped at home one or two days, just as we were situated in our health; had we stopped away any length of time we should have found it difficult to keep our situations." And what was the end of all this long and dangerous toil? After hard work, and scanty pay, there was nothing in view but the workhouse. The last words of this female witness's evidence are most suggestive as to the plight in which the working classes usually found themselves after a life of toil: "I am now in the poorhouse at Hunstet."

But this Commission, with its harrowing revelations of human cruelty urged on by human greed, had one good result: it led to the passing of the Factory Act of 1833, which was the first really great measure of reform, though not the first Act to deal with factory operatives. It "formed the groundwork and model of all future factory legislation for at least a quarter of a century." One of its main provisions was that no child was to be employed for more than forty-eight hours in any one week in a factory; a child being one between the ages of nine and thirteen years; while a "young person," *i.e.*, one between the ages of thirteen and eighteen, was not to be employed for more than twelve hours a day. Night work for children and young persons was prohibited.

But though the Act of 1833 contained many excellent provisions, it was constantly evaded by masters. One method was the adoption of the relay system, by which children were worked in relays, one lot coming for the first part of the day, and the other for the remainder, while the adults worked all the time. But it is acknowledged that this system, though apparently harmless, "gained an evil reputation" by the manner in which it was worked so as to escape any supervision on the part of the Government inspectors, and by the deliberate confusion often introduced into it. Then again, another method of evasion was easily found in the age limits. Each child was supposed to be provided with a certificate to show whether it was above or below the age of thirteen, at which it became a "young person"; but parents and employers alike indulged in constant deception in order to pass off children below thirteen years of age as being older than they really were.

Hence the Act of 1833, though an excellent model for future legislation, was not really very effective in its working, and further agitation became necessary in order that Parliament might be induced to pass more stringent measures. Ultimately another and more comprehensive bill was passed (1844) by which the working hours for the child were reduced to six and a half a day, either in the morning or the afternoon, while young persons and women were to have not more than twelve hours a day for five days a week and nine on Saturday. More stringent regulations for the carrying out of these provisions were also introduced, and altogether the Act of 1844 was a great step forward in the path of progress.

CHAPTER XLII.

CHILDREN'S EMPLOYMENT IN VARIOUS INDUSTRIES. THE LABOUR MOVEMENT.

THE Factory agitation had, however, another important result. It drew attention to the crying evils of children's employments in other spheres of work besides the mills; and those interested in the question succeeded in getting a "Children's Employment Commission" appointed in 1840, which issued two most valuable reports. Again thinking persons, and all those possessing any humanity, were shocked and disgusted at the revelations then made. The state of things in the coal mines especially was most deplorable, and it was found that young girls and boys were employed in the dark underground passages in dragging tubs and trucks of coal about just like beasts of burden.

A second Children's Employment Commission was again appointed in 1861, which went over a great deal of ground which the previous investigators had not been able to cover. But in each case there was proof of a shocking state of affairs. In the letterpress printing-trade in London, for instance, certain houses where books and newspapers were printed were so notorious for the long hours they worked and the terrible results thereof in the mortality of the boys employed in them, that they were openly known as "slaughter houses." Similar excessive work was found to occur in bookbinding, but there the victims were mainly women and girls. But all alike, male and female, were sacrificed to the greed of gain.

Still worse were the conditions of children's employment in brickworks, in the making of bricks and tiles. Between the months of May and September, when the weather was fine, the work lasted from five in the morning till eight in the evening; and when the drying process was carried on in the open air, it often lasted from four in the morning till nine at night. Work from only five in the morning till seven in the evening was considered "moderate." In these terribly long hours boys and girls of the tenderest years were employed, many only six years of age, while cases were found of children of only four years old being thus occupied. One instance is given of a young woman of twenty-four years of age who generally made two thousand tiles a day, being helped by two little girls who carried the clay for her, and stacked the tiles. These little girls daily carried up from the clay-pits a total of *ten tons* of clay, walking with them from a depth of thirty feet to the surface, and then a distance of two hundred and ten feet to the place where the woman was at work. One of the Commissioners wrote: "It is impossible for a child to pass through the purgatory of a tile-field without great moral degradation. The low language which they are accustomed to hear from their tenderest years, the filthy, indecent and shameless habits, amidst which, unknowing and half wild, they grow up, make them in after life lawless, abandoned and dissolute."

Then again in straw-plaiting, a large number of children were employed from a very early age, commencing *generally* to be employed from their fourth year, and sometimes even before that. The conditions under which they worked in crowded rooms were most insanitary. In many cases they had to work in a space "representing less space than half of what a child would occupy if packed in a box measuring three feet in each direction." But perhaps even worse was the state of things in chain-making and nail-making, in the "Black Country" near Birmingham, and in the similar industries round about Sheffield. In the nail trade boys and girls alike worked from their tenth or twelfth year, and were only accounted skilled when they could make a thousand nails a day. Yet they had to make twelve hundred before they could earn the wretched pay of five pence three farthings per diem. Every nail had to receive twelve blows, and as the hammer weighed 1 1-4 pounds the nailer had to exert sufficient force to lift eighteen thousand pounds weight before he could earn even this miserable pay.

The children were often worked twelve and fourteen hours a day at this exhaustive labour, were clad in rags and never got enough to eat, and were often so beaten that they felt it for several days afterwards. When apprentices were employed they were often horribly treated. One authority tells us that they were fed almost exclusively on diseased meat or meat from animals that had died a natural death; and to such an extent did this prevail that in the Wolverhampton district bowel complaints and similar diseases were most frequent. The homes of the people also were wretched and filthy, giving rise to a great deal of preventible disease, while, as was then quite usual, a very large proportion of the working classes suffered from some kind of deformity. Very many, for instance, who worked at filing at the lathe had crooked backs and crooked legs—what they called in that district "hind leg," the two legs being so bent as to form the letter K. And for all this misery and degradation of body and soul, the workers only received the most scanty pittance as wages.

It must be remembered that all these abuses went on unchecked till long after the middle of the nineteenth century. They went on long after the passing of the Factory Acts, for the very simple reason that these Acts, useful as they were, only applied to work carried on in factories, and of course none of the employments of brickmaking, nailmaking and very many others, were thus carried on. It was the same in the lace and hosiery trades, in and near Nottingham. Here a large portion of certain kinds of the work could be done at home, and thus the Factory Acts could not be put into force. Lace finishing was usually done by women in their own houses, aided by young children who were employed at five and six years of age. The usual hours of work were from eight in the morning to eight in the evening, but, when business was brisk, it often went till ten o'clock or midnight. "It is not at all uncommon in Nottingham," wrote one Commissioner, "to find fourteen or twenty children huddled together in a small room, perhaps not more than twelve feet square, and employed for fifteen hours out of twenty-four at work that is of itself exhausting from its wearisomeness and monotony, and is besides carried on under every possible unwholesome condition."

A curious feature of the lace trade was what were known as "lace-schools." In these the workrooms "were generally the ordinary living rooms of small cottages, the chimney being stopped up to keep out draughts, and the inmates kept warm by their animal heat alone, and this frequently in winter." In other cases, we are told "these so-called schoolrooms are like small store-rooms without fireplaces. The overcrowding in these dens and the consequent vitiation of the air are often extreme, and added to this is the injurious effect of drains, decomposing substances, and other filth usual in the purlieus of small cottages." In one such small room were found eighteen girls and a mistress, and "the smell was unbearable"; while it is also shocking to learn that in this form of the lace industry children of only two and a half years of age were found employed.

Such being the unfortunate condition of labour inside and outside the factories, it is not surprising, though it is certainly deplorable, to find that many similar abuses prevailed in agriculture. The life of the fields was, for the young, hardly any better than the life of the factory or the forge. One of the worst features of agricultural employment was the system of working in gangs. Under this system a number of children and young persons were collected together by a contractor or overseer, and hired from their parents. The hirer then took them about the district at certain seasons of the year to work on the land of those farmers who wished for extra labour. The children and older persons composing the gang were of course exposed to all the variations of the weather, without having any homes to return to in the evening, for the purpose of drying their clothes and recovering from the ill effects of rain and cold. They were generally housed by the overseer in any old barns or outhouses that could be procured, and here they had to shift for themselves as best they could, both sexes often being crowded together with no attempt at decent accommodation. The children were frequently treated by the overseers in the most brutal fashion, just as they were in the mills, but it was a long time before any attempt was made to improve their hard lot.

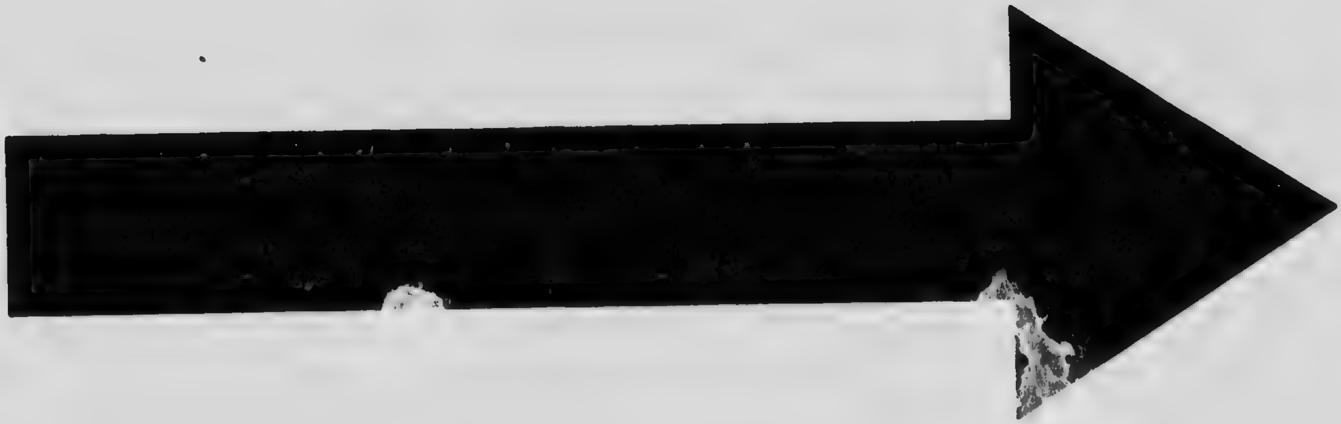
Even when that attempt was made it was met by the bitter opposition of those who maintained that this cheap gang labour—for the gangs were very badly paid—was absolutely necessary for profitable agriculture. Just in the same way the long hours worked in the mills, and the brutal treatment of the young, which resulted from them, were defended by those who declared that all these evils were necessary to keep up the profits of our manufacturers. The landed interest has often been blamed for its opposition to improvements in the lot of the labourer and his children, but the landed gentry and the farmers were no worse than the owners of mills and the merchants of the North. It was not till 1867 that it was possible to get an Act passed which dealt with the evils of agricultural gangs.

CHAPTER XLIII.

A SUMMARY OF THE PROGRESS OF LABOUR IN ENGLAND, AND THE LABOUR MOVEMENT OF THE CENTURY.

WHEREVER we look, therefore, in the conditions of labour in England in the first half—nay, the first three quarters—of the nineteenth century we find the same deplorable misery, want, cruelty, and degradation. At that time England was the foremost manufacturing country of the world; yet if matters were bad there, what hope could there be for labour in other countries less favoured? At the very beginning of the century, when England was engaged, as we have seen, in a war that taxed all her energies and drained all her financial resources, it is not perhaps to be wondered at that little heed was paid to the state of labour. It has been truly remarked by a celebrated economist (Professor Rogers) that "to outward appearance the strife was waged by armies and generals; in reality, the sources on which the struggle was based were the stint and starvation of labour, the overtaxed and underfed toils of childhood, the underpaid and uncertain employment of men."

While the war lasted this state of things, though deplorable, was excusable. But when it was over, this still continued, and it was long indeed before social reformers could arouse public opinion to take any notice of this subject. Even now, at the end of the nineteenth century, much yet remains to be done



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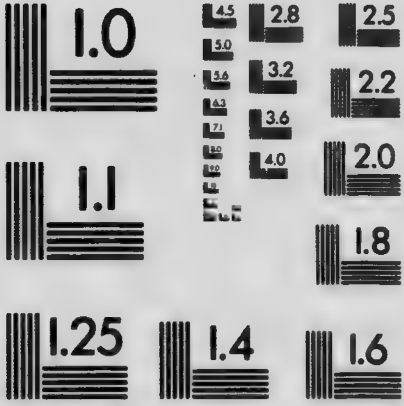

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for the betterment of the condition of many of our working population. But when we look back upon the black misery of earlier days we cannot fail to acknowledge with thankfulness that great progress has been made.

One of the most eminent of English divines in a lecture referring mainly to the reign of Queen Victoria, but yet equally applicable to the social progress of the nineteenth century, summed up the improvement which had taken place in these true and moving words: "The most glorious of its benefits has been that the age of light has also been conspicuously an age of love. When the reign (of Queen Victoria) began, apprentices were often treated with brutal injustice. Greedy sweaters, uncontrolled by any legal enactment, ground down the faces of the poor; women, half-naked, yoked to trucks like horses, and boys, half-naked, crawling on all fours like dogs, beginning their labours often at seven years old, grew double, with hideous deformity and depraved morals, in the black galleries of mines. Can we wonder that the intensity of misery was accentuated by a fierce hatred of employers? Consider the alleviation produced by Lord Shaftesbury's Ten Hours movement alone and by the Factory Acts. Only think of the triumphs that have been won in this generation for the children of England. Even fifty years ago Mrs. Barrett Browning might well sing:

> 'Do ye hear the children weeping, O my brothers,
> Weeping ere the sorrow comes with years?
> They are leaning their young heads against their mothers,
> And that cannot dry their tears:
> The young lambs are bounding in the meadows,
> The young flowers are blooming toward the west,
> The young fawns are playing with the shadows,
> The young birds are singing in the nest;

> But the young, young children, O my brothers,
> They are weeping bitterly—
> They are weeping in the playtime of the others,
> In the country of the free!'

"When the reign began little paupers were beaten and starved, as you may read in *Oliver Twist;* naval apprentices in coalboats and merchant vessels were subject to horrible barbarities; the poor little climbing boys, grimed with soot and skin disease, were maimed and suffocated in choked and crooked chimneys; children were worked in cotton mills for unbroken hours which would have been crushing to grown men. They were brutally treated in brick fields, in canal boats, in agricultural gangs, in pantomimes, in dangerous performances, in the hands of beggars and hawkers and acrobats. Waifs and strays, criminal and semi-criminal—unwashed, untaught, unfed—weltered in an atmosphere of blasphemy and gin, in lairs and dens of human wild beasts, such as are now swept away by the merciful hand of law. Like a vernal breeze the spirit of mercy has swept through these lurid mists of contagion, which on every side were stagnating into pestilence. What beautiful names shine out like stars from the luminous but undistinguished galaxy! Lord Shaftesbury, consecrated from boyhood to holy service, on whose statue posterity will read the two precious monosyllables, *Love, Serve,* which were the epitome of his life. The Prince Consort, whose lifelong efforts are expressed by his own memorable words, 'Depend upon it, the interests of oft-contrasted classes are identical, and it is only ignorance which prevents their being united to the advantage of each other.' Add to these men like Mr. Plimsoll, who would not suffer our sailors to be sent to sea in floating coffins;

Mr. George Smith, who toiled for the nomad children of beggars, canal boats, and gipsy camps; Dr. Barnardo, who has rescued thousands of our gutter children. . . . These we have seen, and tens of thousands of 'the faithful who are not famous,' but whose names are written in Heaven, and whose lifelong effort it has been to roll away the stone from the door of the sepulchre which shuts in the wretched and the imprisoned masses of mankind."

These words of Dean Farrar form a noble summary of the social progress of the century, in a country where now the working classes enjoy a measure of liberty and amelioration beyond any of their brothers of less fortunate countries, with the exception of the United States of America and the British colonies. It is well known that the progress of labour in America has been very marked, but we need not refer to it so much in this chapter, because the conditions of labour in young countries can never be the same as in older lands; and therefore progress, although real, has been of a different kind, and less easily perceived. Few countries, again, have till recently reached the same standard of manufacturing development as has Great Britain, and therefore have not had the same problems to face as regards the condition of the people.

In recent years, as France, Germany, Belgium, and other European States have developed their manufacturing industries, many of the evils which appeared in England earlier in the century have made their appearance here also. In Germany, for instance, the hours of work in many branches of industry are far longer than they now are in England; but just before the middle of the century a German Socialist (Engels) wrote a book, full of harrowing but unfortunately true details, upon the condition of the industrial population of England, expressly as a warning to Germany not to proceed in her industrial development upon the same lines. When he wrote, the conditions of life in Germany and in England were very different for the masses. But now they tend rather to approximate, and that is the tendency in all civilised countries. There is less divergence of industrial development, and therefore less of difference in social conditions. Yet, as we have already seen in the previous chapter, the general social condition of all the industrial nations of Europe has tended decidedly to improve, and we can be thankful that the course of the nineteenth century has been for the working classes a course of progress rather than of retrogression.

It is an interesting question as to how far that progress has been the outcome of the general "labour movement" that has made itself felt throughout all the nations of the modern industrial world. Some have claimed that whatever improvement has taken place has been due to the spreading of Socialism, and to the efforts made by Socialist leaders on behalf of the working classes. But doubt may be expressed whether Socialism is not rather the result than the cause of improved conditions. It is very difficult, in observing the course of popular movements, to discern clearly between cause and effect; it is indeed almost impossible, because forces and movements act and interact with such complexity one upon another. But it has frequently been observed that it is not when masses of men are completely downtrodden and degraded that they invariably agitate for reform and for improved social conditions. It is rather when already some improvement has taken place owing to other causes, that the masses begin to agitate for something more. It is not, for instance, the Russian peasant who is the greatest supporter of Socialism at the present time, but rather his French, German or Belgian comrade, who is much better off. Similarly the growth of Socialism in England—though it is of a much milder form here than elsewhere—does not coincide by any means with the darkest period of the history of British labour, but rather with the modern progress of industry which has given the labourer better conditions. When the labourer is in the depths of misery and starvation, he may indulge in rioting and even in revolution, but he does not then initiate great movements which have a permanent effect upon his well-being. Hence we conclude that social progress produces social movements, rather than the reverse.

At the same time, it must be remembered that the altered conditions of modern industry, and the advent of manufacture by machinery, has resulted, among other effects, in bringing together the working classes into far closer contact with each other than ever was the case before; and where we have this closer contact we find always that new ideas grow more rapidly and we find more fruitful soil, and then these ideas re-act upon the conditions which produced them. We have also to take into consideration that the modern developments of industry have placed capital and labour in different positions from those which they formerly occupied. The difference between capital and labour is more clearly marked; while the relation between them is no longer that of master and man, but rather that of buyer and seller—the one selling labour and the other buying it, and then having no further relations one with the other. The result of this is that the antagonism between labour and capital is more acutely developed, and the masses of labourers become an army hostile to their employers. When one understands the growth and development of modern industry, it is perceived that the appearance of Socialist and Anarchist movements is merely a symptom of general causes which are often least of all understood by Socialist leaders themselves.

CHAPTER XLIV.

POVERTY AND PROGRESS IN ENGLAND.

But we must leave these general considerations and glance for a moment at the progress made in the conditions of life for the labouring population. We have seen what great improvement has been made in the lot of the young, but we are glad to notice that the conditions of ordinary life for all classes of workers have also been improved. Not long before the middle of the century, the state of the working classes in England was in every way most deplorable. In 1840 there were in the famous seaport of Liverpool no less than seven thousand eight hundred and sixty *cellars* used as dwellings and inhabited by as many as thirty-nine thousand people, which was then equivalent to one-seventh of the total population of the town. At the close of the century Liverpool still possesses many insanitary dwellings and many squalid streets, but nothing quite so bad as that. In Manchester and Salford, also, a large number of the population lived in cellars, and ten thousand of these wretched dwellings possessed absolutely no furniture at all. Again in Bury, a well-known manufacturing town in Lancashire, the population of which was at that time twenty thousand, it was found that seven hundred and seventy-three families were accustomed to sleep three and four in a bed; and that two hundred and nine slept four and five in a bed; while [illegible] sixty-seven five and six persons slept together, and in some cases even more.

About the same time a member of Parliament mentioned publicly that workmen in Birmingham with large families were only receiving from six shillings to eleven shillings a week, as they could not work full time, but if they could work full time would earn from fifteen to thirty shillings. "How these poor families live and pay rent," he said, "can only be answered by the poor creatures themselves." The Member for Leeds at the same time remarked that in his [illegible] there were quite ten thousand persons out of employment, which meant that one-fifteenth of the population had no work. The Member for Rochdale declared that in his constituency there were one hundred and thirty-six persons living on sixpence a week, two hundred and ninety on tenpence, five hundred and eight on a shilling, and fifteen hundred on one shilling and tenpence a week. "Of these, five-sixths had scarcely a blanket amongst them; eighty five families had no blanket at all, and forty-six families had only chaff beds with no covering."

If the material condition of the people was miserable, their mental and moral condition was no better. In Birmingham more than half the children were receiving no education whatever, while in Sheffield quite two-thirds of the working class children were in the same plight. But even if they had had education given to their minds, their bodies were hardly in a fit state to profit by it. We can hardly form any idea, at the close of the nineteenth century, of the terrible destitution which, at the beginning of it, seems to have been not the exceptional but the normal state of masses of the people. We learn from Martineau's *History of the Peace* that in the town of

Carlisle, a quarter of the population was in a state bordering on starvation, and actually certain to die of starvation, "unless relieved by extraordinary exertions." This was in the North, but in the South it was not much better. In the woollen manufacturing districts of Wiltshire the allowance to the independent labourer was not two-thirds of the minimum in the workhouse, and the population actually consumed only a fourth of the bread and meat required in 1820, although their numbers had increased up to this time (about 1840).

In Stockport, near Manchester, more than half the master-spinners had failed before the close of the year 1842, and dwellings to the number of three thousand were shut up. Five thousand persons were out of work and walking about the streets in idleness and want. In Burnley, another manufacturing town, the guardians were obliged to write to the Secretary of State to say that the local distress was quite beyond their management, and a Government Commissioner with special funds had to be sent down without delay. Provision dealers, we are told, were subject to incursions from wolfish men prowling about for food for their children, or from half-frantic women with a baby at the breast, or even from parties often of a dozen poor wretches rendered desperate by hunger who levied contributions upon the various shops. The linen drapers found that new clothes had become quite out of the question for the majority of their customers, who could only buy remnants and bits to patch up their old ones. The bakers became surprised at the number of persons who came in for only half-pennyworths of bread. "A provision dealer used to throw away outside scraps of bacon; but now respectable customers of twenty years' standing bought these in pennyworths to moisten their potatoes. These shopkeepers contemplated nothing but ruin from the impoverished condition of their customers. While rates were increasing beyond all precedent, their trade was only one-half or one-third or even one-tenth of what it had been three years before."

This was at Manchester, and in many smaller towns it was worse. At Leeds the same authority tells us that the pauper stone-heap amounted to one hundred and fifty thousand tons, and the guardians offered the paupers six shillings a week for doing nothing rather than pay seven shillings and sixpence a week for stone breaking. The millwrights and other trades did all they could to encourage emigration, or get their " hands " to go away somewhere else. At Hinckley one-third of the inhabitants were paupers and more than a fifth of the houses stood empty. In Dorsetshire in the agricultural districts the scanty pittance of half-a-crown a week and three loaves formed the wages of a man and his wife, and the best labourers could only get six or seven shillings.

The result of this widespread and chronic destitution, coupled with ignorance and degradation, was that riots were of very frequent occurrence. It was no unusual thing for the military to be called out. In the potteries, on one occasion, a force of six thousand rioters, spreading over an extent of seven miles, kept the whole district in alarm, like an invading army. In Manchester the number of " malcontents," as the historian calmly terms them, became in 1842 quite alarming. Mills were stopped, windows broken, and machinery injured. The Riot Act was read four times in one day and scores of prisoners were taken at once. A large number of soldiers had to be called in, and "at one time all the chief towns in the manufacturing districts seemed to be in the hands of the mob."

We may conclude this gloomy picture of the social condition of many of the industrial population before the middle of the century with a few salient facts taken from various authorities on this subject. The worst time was the period from 1815 to 1845, and at one time one person out of every eleven in the population was a pauper. The result upon the poor rates was simply appalling. At Hinckley, Leicestershire, in the year 1816 the poor rate was fifty-two shillings in the pound. In 1817, at Langdon (Dorset), four hundred out of 575 inhabitants were receiving poor law relief, and in Ely in Cambridgeshire three-quarters of the population were in the same plight. In the years 1819, 1820 and 1822 agriculture was in a state of universal distress, and petitions upon the subject were presented to Parliament. Farmers were ruined in thousands, and one Norfolk newspaper alone, in one day, announced no less than 120 sales of their stock. The result of this depression was that the workhouses were always full; so full, in fact, that in 1829, in some parts of the country, paupers had to sleep four, five and even six in one bed.

The towns were no better off. Sheffield had twenty thousand, and Leeds thirty thousand, persons dependent on the rates. Whole families were reduced to living on bran instead of flour. This is not surprising when we find (in 1839) in Devonshire that the whole of a labourer's wages for one week would hardly suffice to procure dry bread for an ordinary family of four or five children. Where the remainder of their food was to come from was a question

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beyond his power to answer. As to meat, the working classes in those days hardly ever had any. In 1840 Lord John Russell told the House of Commons that the people of the British Isles were in a worse condition than the negroes in the West Indies. They certainly were, for the West Indian negro could procure food with the minimum of exertion from the produce of the earth, and needed little clothing and scanty shelter, while the British workingman, however hard he worked, often could hardly hope to buy food enough to keep his family alive, and earn enough to pay the rent of even the humblest cottage. Richard Cobden, speaking from his own experience, declared that he knew of one place where a hundred wedding rings were pawned in a single week to find bread; and of another place where men and women subsisted on boiled nettles, and dug up the decayed carcase of a cow, which had been buried, rather than die of hunger. At the end of the same century these facts may seem almost past belief, for whatever the sufferings of the working classes may be now, they cannot be compared to the terrible state of things thus depicted.

The homes of the people, too, were (as we have mentioned) often of the most miserable description. The Irish peasants in their mud huts were better off than the crowded dwellers in the towns, for the former at least had the open air and the pure vault of heaven above them, while the latter could only breathe a contaminated atmosphere laden heavily with the exhalations of dirty humanity and the smoke of factories. In Manchester, at the beginning of Queen Victoria's reign, no less than one-tenth of the total population lived in cellars, each only reached by means of a small area, down steps leading from the court or alley in which they were situated. They were often flooded with stagnating filth, and only covered with damp brick floors through which the moisture was continually oozing up and filling the room with disgusting odours. Yet whole families lived in these unspeakable holes, sleeping crowded together on the filthy floor of their grimy cellar.

We find from medical writers at the beginning of the century that fever was constantly rife among the dwellers in these insanitary abodes, as well as in the factories where they worked—and no wonder, for infection was rife wherever they went and disease stalked unchecked through the crowded ranks of degraded humanity. In the country parishes these conditions were often not much better. We read of one place in Dorsetshire where, on an average, thirty-six persons dwelt in each house; and in one case, typical unfortunately of many others, a father and a mother, with a married daughter and her husband, a baby, a boy of sixteen and two girls, all slept in one room. Health and decency were alike impossible under such conditions.

This state of things did not exist only exceptionally. It was not merely now and then that the poor were short of food and unable to find decent dwellings. It was, on the contrary, quite a common state of things down to the middle of the century. Bread was something so scarce that the poor were glad to live on raw turnips and boiled nettles. So late as the year 1847 Queen Victoria wrote (on the 18th May): "The price of bread is so high that we have been obliged to reduce every one [in the Royal household] to a pound a day, and only secondary flour to be used in the royal kitchen." Meat was sometimes so rare and so dear as to be sold in pennyworths and ha' porths. In 1842 a Colonel Thompson of Bolton (Lancashire), in a public letter to a local newspaper, wrote thus: "Have you ever seen a pennyworth of mutton? Come to Bolton and see how rations are dealt out under the landlords' siege (referring to the scarcity of food under the then existing Corn laws). A pennyworth of mutton might bait a rat trap, but a well-fed rat would not risk his life for such a pittance."

Perhaps the facts and figures of Poor Law Relief show, as well as anything else, the contrast between the beginning of the century and the end of it in one of the richest countries in the world. Though the state of the poor was wretched, the means of relieving it did, on the whole, as much harm as good. Since 1796 it had become the custom to give outdoor relief to labourers, whether able-bodied or not, in their own houses; so that wages were thus regularly supplemented by the poor rates. Relief was also given according to the number of children in a family, and thus improvident marriages and acts of profligacy were encouraged rather than repressed. Farmers benefited by the arrangement, because they had to pay only very low wages to their labourers, who obtained money from the parish; but every other ratepayer suffered heavy burdens, and pauperism was encouraged instead of being checked.

In the year 1803 the poor rate was over four million pounds sterling for England and Wales, equivalent to 8s. 11d. per head of the then population. In the year 1818 it rose to 13s. 3d. per head, and even in 1830 was as high as 10s. 9d., whereas since 1840 it has not been much more than six or seven shillings. In the year 1832 one person in every seven was a pauper. Some measure was imperatively called for to remedy this evil, and in 1834 the New Poor Law was passed. Outdoor relief to the able-bodied was then prohibited, but workhouses were provided for those who were really destitute. Parishes were arranged into Unions so that the burden of the rates might fall more equally and a general system of reform was instituted. The methods of dealing with pauperism are not perfect even now, at the close of the nineteenth century, but they are very considerably superior to the state of things before the New Poor Law.

Yet even apart from pauperism the condition of the masses in England was, even for years after the accession of Queen Victoria, most unsatisfactory. The average rate of wages from 1800 to 1845 was very low, both for manufacturing artisans and agricultural labourers alike. For some thirty years weavers' wages were often under fourteen shillings a week, sometimes even less than five shillings, while even from 1830 to 1845, when things were improving, they ranged only from fourteen to seventeen shillings for men, and seven to nine shillings for women. Agricultural labourers, up till 1845 or so, only gained from eight to ten shillings a week, and in some parts of the country even less. At the same time the price of bread, until the Corn Laws ceased to operate, remained extremely high, since the price of wheat rarely sank below five pound sterling per quarter, while other provisions were dearer in proportion than they are now, since there was not so much imported from abroad. "Every bad harvest brought riots and outrages in its train; the midnight sky was often red with burning hayricks, cornstacks and farm buildings, set on fire by starving labourers." Incendiarism, indeed, was rampant, and it seemed to be the invariable result of unfavourable harvests. Whatever profits were made by the manufacturers, the merchants, the farmers and the landlords, the working classes seemed to obtain a very small share of them; and yet it is remarkable that English trade and industry were, all the time, increasing rapidly and constantly.

In a previous chapter, we have given some statistics for European countries, showing that the working classes now have better food, and more of it, than they used to have. So too the English labourer, at the beginning and middle of the century, was poorly fed compared with what he has to eat now. It is a curious fact that the British workman now eats nearly six times as much butter and cheese, and thirteen times as much bacon at the close of the century than he did, say when Queen Victoria began to reign. He also drinks four and a half times as much tea and consumes five times as much sugar. Indeed, now, in 1900, there is, according to the eminent statistician Mulhall, no country of Europe where the people are so well fed as in Great Britain, for the expenditure of the British on food amounts on the average to ten pounds four shillings per head per annum, as compared with an average of eight pounds sixteen shillings in France, and seven pounds fifteen shillings in Germany. The cost in the United States is about seven pounds ten shillings a head, but food is cheap there.

The workingman is also very much better housed than before. We have seen what filthy dens he used to live in earlier in the century, but now we find that the conditions of the homes of the masses are far better. Of course there still are in many of our big towns—and small towns, too,—slums and rookeries which are a disgrace to civilisation; but on the other hand the sure figures of statistics tell us that there are thirteen per cent less people living in houses of under twenty pound a year rental than there were in 1841, and it has been calculated that the people of England are now twice as well housed as they were then.

At the same time wages have generally risen, so much so that the value of earnings per inhabitant has increased quite fifty-seven per cent since 1860. Hence it is not surprising that in Great Britain pauperism has much decreased. There were in 1896 only twenty-six paupers in every thousand of the population as compared with forty-eight per thousand in the middle of the century (1850). It is unfortunate, however, that in Ireland the number of paupers has rather increased than diminished towards the close of the century.

Thus we see that very great and satisfactory progress has been made in the condition of the working classes in England since the year 1800. They are now better fed, better clothed and live in better dwellings. Their moral and intellectual progress has kept pace with their progress in those things which pertain to the purely material side of human life. The various educational acts, and notably the School Boards established in 1870, together with the voluntary schools maintained by the Church and other religious bodies, all have had their share in enlarging the mental horizon, and raising the intellectual level of the workers. The machinery of education is by no means perfect, and it is acknowledged that even now large numbers of children somehow slip through the hands of the educational authorities; but though the numbers may be large, they are yet proportionately only a very small fraction of the total number of children of school age, and every child has now at least the opportunity of receiving a decent education.

With the growth of education and of better surroundings generally, the tastes and manners of the working classes have decidedly improved. The old brutal sports are dying out, and the healthier amusements of cricket and football are taking their place. Drunkenness, though very prevalent, is not so universal as once it was; but still no social student can fail to wish that in this direction still further improvement might be made. But compared with the state of things a hundred years ago, or even fifty, the progress that has been made in the general elevation of the masses of the people has been very marked. There is hardly any of the rioting and mob violence that was quite a common feature, earlier in the century, on the occasion of any great political or social movement; and the crowds of persons who assemble at any great national function—such as the Diamond Jubilee of Queen Victoria in 1897—are reported by the police to be yearly more easy to manage, and more amenable to the restraints of law and order.

There are, of course, many features in the life, the conduct and the surroundings of the working classes that a social reformer could wish, and hope, to see altered or improved. Child labour is still too frequent, overcrowded and unhealthy dwellings too numerous, pauperism and want often too sadly prevalent. Yet, compared with the past, very great and remarkable progress has been made, and even if, as some say, the workers have not benefited so much as they ought to have done in the increase of wealth and the profits of industry, yet compared with what they had before, they have made a gigantic stride forward. Our civilisation is very far from perfect yet, and, if one denies it, a strong case may be made out against it; but still it has become a better and a brighter civilisation than it was a hundred years ago, and for that much at least we must be thankful.

CHAPTER XLV.

AGRICULTURAL PROGRESS OF THE CENTURY.

Having now surveyed the condition of the chief countries of the civilised world up to at least the middle of the century, we may now devote our attention to a consideration of the main branches of industry throughout the whole period. We began this volume with some account of the state of agriculture in Great Britain, because Great Britain was at the beginning of the nineteenth century, if not the richest and most fertile country among civilised nations, yet the country in which the processes of agriculture had received the most careful and skilled attention. At one time the Dutch were the pioneers of agricultural industry in Europe; and those who are interested in the subject may read in the pages of that great historian of agriculture, Professor Thorold Rogers, how much England owes to her smaller neighbour, Holland, in regard to agricultural suggestions and improvements. But the English farmer, having learned what the Dutch had to teach him, soon became one of the foremost agriculturists of the world, and even went a few steps beyond his teachers.

It has been remarked by the versatile millionaire, who is the author of that pæan of American progress *Triumphant Democracy*, that no victory of peace was so long deferred, or so complete when it came, as the conquest of the soil. That is to a very large extent true, for the progress of agriculture has been distinctly a modern growth. But it is rather an exaggeration to say, as this author does, that a hundred years ago agriculture was in little better condition all over the world than it was a thousand years before. "Indeed," he remarks, "it has been boldly asserted that the Greeks, Romans, Egyptians and Assyrians cultivated their soil better than any portion of the earth was tilled even a century ago. The alternation of crops was almost unknown; fields exhausted by frequent repetition of the same crop were allowed to lie fallow, as in the time of Moses. Drainage, when practised, was of the rudest kind; and, in the sodden ground, crops were thin and poor in quality and unhealthy as food. Farming implements were of the most primitive type. The plough generally used was little better than that of Virgil's time, and only scratched the ground. The sower, with a basket suspended by a cord round his neck, walked over the field throwing handfuls of grain on each side, as described in the parable, and as shown even now by pictures in rural almanacs. The reaping hook, almost as old as the hills on which waved the ripened corn, was the only means of cutting it; while only 'the thresher's weary flingin' tree' of Burns enabled the farmer to separate the grain from the straw."

The picture, though severe, was no doubt true enough of a very great deal of the agriculture of Europe and America at the beginning of the nineteenth century; and, as we have seen in the first chapter of this volume, the most primitive methods persisted into quite recent times. The ancient system of common fields was only dying out in the eighteenth century in England, and even early in the nineteenth was not quite dead. Before the great Revolution in

France, much of the agriculture there was of the poorest description; so it was too in many parts of Germany, of Italy and of other European countries. In America the progress which has since been made had barely begun, and vast tracts of new land were farmed only in the roughest and most wasteful way. But the course of the century has seen great changes, and these have come about because, after all, though much of the agriculture of Europe and America was rough and rude, yet a beginning of better methods had already been made; and, though perhaps at first few and far between, yet there were agriculturists, especially in England, who had made the most important strides forward in the art of their great industry, and whose example was being slowly but surely copied by those around them.

There are, indeed, two great main lines upon which agricultural progress in the nineteenth century may be said to have proceeded. Those are the system of farming on a large scale, introduced (as we saw) in England when the old common fields began to be enclosed; and carried to its fullest extent, upon a vast capitalistic basis, in America; and on the other hand, the system of farming on a small scale, prosecuted most successfully in France and Belgium, and some parts of Germany. Both systems, that of [illegible] and that of small culture, have in their way been productive of the most beneficial results, and in the course of this chapter we shall have occasion to see what has been hereby achieved.

But undoubtedly the most remarkable feature in the progress of agriculture, as in the progress of every other industry, has been the application to it of the discoveries of science. As a great agricultural authority remarks, the history of agriculture in the nineteenth century "may be summed up in the application of science to practice, under the conditions of land-tenure with which we are now familiar. Vast capital has been expended on farm buildings and drainage; machinery and steam have lessened the cost of production; the farmers' resources of crops, winter foods, manures and implements are indefinitely increased; new means of transport have opened up new markets in every direction; mechanics, capitalists, architects, geologists, chemists, physiologists, botanists, statisticians, are now enlisted on the side of the farmer."

Some of the pioneers of this new order of things, at least in England, may here be mentioned. The question of improved drainage owed much to the efforts of Mr. Smith, of Deanston (1834), and Josiah Parkes (1843), who combined both practical and scientific knowledge. In the latter year also Reed's cylindrical pipes began to be used, and an inventor named Scroggs turned out a machine for their construction. Landlords were enabled to profit by these new methods owing to the facilities provided by Parliament in 1846 for raising loans for the purpose of land improvement. About the same time, or a little earlier, the question of manuring began to receive more careful attention, and the results of chemical science were applied to the necessities of agriculture. The use of that most valuable product, nitrate of soda, dates from the year 1835, while in 1843 Lawes's superphosphates of bone dust and Henslow's superphosphates from coprolites produced quite a revolution in the old methods of treating the soil. We may also mention Adam's ammoniacal manures, about the year 1851, as another very valuable addition to the farmer's knowledge as to how to do the best for his land.

The old ideas as to cropping and so forth necessarily underwent a complete change. In the same way, new inventions or improvements were introduced in agricultural machinery, and such things as steam-ploughs and steam-threshers began to be seen at work. Then, too, new crops were tried, and it is astonishing, when one comes to think of it, how long agriculture has had to wait till such useful products as swedes, mangel-wurzel, field cabbages and kohl-rabi began to be grown in our fields. All these are of quite recent introduction into England, and it is curious to reflect how many thousand years mankind has tilled the soil without awaking to the possibilities of their use. The result of all these improvements was rapidly seen in the greater productivity of the soil, and also in a very marked development of stock rearing. Far more live stock could now be kept, and it was both better bred and better fed than before. It is said that the average weight, both of sheep and oxen, sold in Smithfield market (London), has been more than doubled since the middle of the eighteenth century; and the greater part, though perhaps not all, of this remarkable improvement, took place in the nineteenth century.

There is also no doubt that great care and intelligence is exercised by farmers in the breeding and rearing of stock, and though in agricultural education much remains to be done, yet great strides have been made when compared with the rough and ready methods of our not very remote forefathers. It is, however, unfortunate that—at any rate in England—agriculture has ceased to show such marked progress since 1873, owing to the profound agricultural depression from which the country has suffered during the closing years of the century. Yet, on the other hand, the science of agriculture has achieved in England some of its most notable triumphs, and we shall see from statistics that the product per acre of British crops is greater than that in any other country. In order to gain this product, however, the English farmer expends a far larger amount of capital than is possible for his American, Canadian or Australian brother. But in Great Britain the nineteenth century has witnessed in agriculture, as in so many other industries, remarkable growth and progress, and we are sanguine enough to believe that this progress has not yet come to an end.

But, having now seen the main lines and improvement in agricultural science, we must notice the general progress of this great industry in different regions of the world. Here, as elsewhere, the nineteenth century has produced a great movement forward. One thing is certainly remarkable; and that is, that there is no fear at the close of the century, such as there was at the beginning of it, that the population of the world would outgrow the means of subsistence. Had we the necessary space, we could easily show that it is really a fallacy that population tends to outgrow the means of subsistence; for it is the growth of means of subsistence which, in the long run, determines the growth of population, so that, whatever appearances may seem to the contrary, population cannot increase faster than there is food to supply it. But the close of the century has shown us that the food supply of the world has actually increased faster than the population, so that the prices of all agricultural produce have tended to decrease, and there has resulted a depression in agriculture producing wide-spread concern.

It is true that at the meeting of the British Association for the Advancement of Science in 1898, the new president tried to alarm civilised mankind by a prophecy of the future insufficiency of the supply of wheat, and also considerately suggested how some compensating food could be chemically obtained. But this excursion of a scientific man into the realms of economics only served to show that even men of science have their limitations, and that a great chemist or physicist is not by any means omniscient. The probability is that the growth of science will continue so to improve agriculture that there will always be enough food for mankind as a whole, although individual countries may find their own local supplies running short.

CHAPTER XLVI.

THE PROGRESS OF AGRICULTURE IN EUROPE AND AMERICA (GENERAL).

It is often not sufficiently realised, especially in these days of manufactures and machinery, that agriculture is still the greatest industry in the world. Without counting India and China, which are almost purely agricultural communities, it occupies more than eighty million peasants, and has an annual product of something like four thousand million pounds sterling (English). And it is further remarkable that, according to the calculations of the ablest statisticians, both the capital employed and the value of the products of the agriculture of civilised nations have been doubled since so recently as 1840. The number of hands engaged in it, however, has not increased in anything like this proportion, the increase being only fifty per cent, thus showing that the increased value of the product has been due to improvements in methods and to the progress of agricultural science.

The agricultural capital of Europe has been doubled since 1840, but the agricultural capital of the United States has been multiplied no less than sixfold. As regards values of produce, however, it is well known that prices have had a tendency to decrease, to the sorrow of many a farmer and peasant. The value of grain crops has diminished since 1860, while on the other hand that of pastoral products has been nearly doubled. The prices of grain have gone down, while that of meat and dairy products has risen. At the same time, as we saw in another chapter, in several civilised countries, the people as a whole—including the working classes—have consumed a greater quantity of meat at the close of the century than they used to do at the beginning of it. As regards grain crops, the area under grain as a whole has increased, though in some countries, such as England, it has greatly diminished.

But nearly everywhere improved implements and machinery have made tillage more productive and grain cheaper. In the year 1840 each peasant produced—taking all countries on an average—about seventy-three bushels of grain. In 1860 the average product was eighty-seven bushels, while in 1887 it had risen to as much as one hundred and fourteen bushels per man. Two men, in fact, could produce more grain in 1887 than three did in 1840. Another striking fact pointing towards the same conclusion is that while the area of tillage and planting only increased sixty-five per cent in the forty-eight years ending with 1887, the amount of grain crops raised has actually risen one hundred and twenty per cent.

This shows how much improved implements and machinery have affected the progress of agriculture. But the country where this fact is seen most clearly is the United States. There in the "eighties" it was found that nine million hands employed in agriculture raised as much produce as sixty-six millions did in Europe. Thus, for want of proper implements or machinery, there is in Europe, says Mulhall, "a waste of labour equal to forty-eight millions of peasants." In other words, one farm labourer in the United States is "worth more than three in

Europe." Or again, if we consider merely the weight of food produced, the same statistician shows that one farm labourer in the United States raises as much as two in the United Kingdom, as much as three in Germany, five in Austria, or seven in Russia. The number of farmers and farm labourers at the close of the century (about 1898) is just nine times that of the United States, yet the weight of food raised is only double, so that it takes four and a half Europeans—say, four men in Europe and a boy—to raise as much food as one American. This is an even greater disproportion than the figures just quoted above referring to the period 1880–87; and we thus see that American methods in agriculture have not ceased to progress during the last few years.

As regards the quantity of wheat produced, we find that in the years 1892 to 1895 the average production was again largest in America. The United Kingdom only produced forty-nine million bushels, while the United States produced the enormous quantity of four hundred and sixty-seven million bushels. The country which came next to the States was Russia, with three hundred and twenty-two million; and then France, with three hundred and three million. Canada produced about the same quantity as its mother country, Britain, the amount being forty-eight million bushels. If to the crops of wheat we add those of other food grains, we find that, although the total for Europe is much larger than that of the United States, the latter are increasing their produce at a much faster rate than the former. Half-way through the century (say 1851 to 1860) the annual average crops of all grains in Europe were over four thousand million bushels yearly, and towards the end of the century (1892–95) the annual average was five thousand seven hundred million bushels. This shows an increase of fifteen hundred million bushels. But the figures of the United States show an increase of two thousand five hundred million bushels in the same period, and there is no reason to believe that this increase has stopped.

At the same time, it must be admitted that agriculture in Europe produces better results per acre than in America; there the care spent in tillage and labour, as compared with the different methods employed in the States, tells its tale. Great Britain shows the highest average product per acre of any country, the number being thirty-three bushels per acre, in 1896. The average for the continent of Europe is only fifteen bushels, and for the United States, only twelve and a half. In all these cases, however, the productivity per acre shows an increase in the twenty years ending in 1896, for in the year 1876 the average for Great Britain was only twenty-six bushels, for the continent of Europe twelve and for the United States eleven bushels.

Another rather interesting set of figures is that which shows the production of grain as compared with the number of the population. Here we see, as indeed is well known, that Great Britain only produces seven bushels of grain for each of her inhabitants, while the United States produces no less than fifty-four bushels for each person. It is rather curious to notice that a fertile country like Italy only produces also seven bushels per person, but on the other hand Italy produces a large quantity of wine and fruit as well. Holland, again, only produces nine bushels, and Belgium only twelve; Germany and Spain about the same, viz.: thirteen; Austria nineteen and France also the same number; and

Russia about twenty bushels. It is the United States that head the list, far and away, and show that they can produce enough for all their own people, and some to spare for Europe as well.

Just as the improvements in agriculture have given mankind more grain to the acre in recent years, so too pasture land has become more valuable, and supports a greater quantity of cattle and herds, thus increasing the supply of meat. It is estimated now that a hundred acres of pasture land will carry about two hundred sheep or thirty-three horned cattle. An acre of artificial grasses or turnips, says Mulhall, will maintain six sheep or one head of cattle. The extremes of these averages are found in Australia and in Argentina. In Australia the pasture is so poor that one hundred acres will usually only carry one hundred sheep or sixteen large cattle; whereas in Argentina, on the other hand, the same area will support three hundred sheep or fifty cattle. It is in Europe that the largest amount of meat is produced, just as there also the largest amount of grain is grown. It is calculated that Europe produces more than sixty per cent of the total meat supply of the world; and this in spite of the fact that North and South America are now sending over such vast supplies.

The growth of the century has witnessed, in this branch of agriculture, as in others, considerable progress. The statistician Moreau gives tables for an early period of the century (1838), and, compared with the last few years (1896), there is on the whole a great increase. In 1838 there were said to be seventy-one million cattle, as compared with one hundred and five million in 1896; only forty-three million pigs as compared with fifty-three million;

twenty-six million horses as against thirty-nine million. According to this table, however, the number of sheep has declined from one hundred and eighty-five million to one hundred and seventy-six million; but, if this is really the case, it may be accounted for by the quantity of wool and mutton now imported from other countries, rendering it less profitable than formerly to rear sheep. As for the United States, the increase of their live stock is simply enormous, but we will give the figures when we deal with American progress specially.

We may conclude our general survey of the progress of agriculture, however, by noticing that there have been certain fluctuations in this industry which have at times seriously affected it. There was in Europe a steady rise in nearly all agricultural values from about 1820 till about 1874 or 1875, but since 1870 or 1880 there has been a considerable decline, to an extent estimated by Mulhall at eight per cent. This is undoubtedly due to the competition of the New World, for the United States have, since 1880, enjoyed a rise in value of their agricultural products of about ten per cent.

The most noticeable feature, in fact, in the history of agriculture in the nineteenth century has been this decline of agricultural values in the Old World, as compared with their rise in the New. It is evident that the food supply of Europe is being largely increased from the vast stores of America, and there is apparently no reason why this increase should not continue. The American farmers can send over to Europe the products of the earth, especially grain and meat, more cheaply than they can be obtained in England or Europe, and, as long as they can do this, the population of Europe will take all they can send. If there were no restrictions upon the imports of foreign food supplies into European states, it is not improbable that the abundance of cheap food would maintain a larger population than exists in Europe at present. On the other hand, if population in America goes on increasing rapidly, there will be more food required for America and less available for export to Europe. In this case, agricultural values in Europe will rise. But there is room in America for a very considerable expansion of population before the limit of the food supply will be reached; and we may expect for a long time to see the Old World supplied in increasing quantities from the boundless stores of the New. The economist of a future generation, looking at the boundless resources of countries like Canada, Argentina, and the United States, will hardly have to solve the problem of how the masses are to be fed, but only how the food already existing is to be brought to those who need it.

CHAPTER XLVII.

PROGRESS OF AGRICULTURE IN ENGLAND.

Having gained this general survey of the agricultural progress of the world, we may now look specially at one or two of the leading countries. Agricultural interests stand highest in Russia and Ireland, but lowest in Great Britain and Holland, while in the United States they take a very leading place, though not so exclusively so as earlier in the century. But though they stand so low now in Great Britain, agricultural interests are still extremely important; and agriculture is still one of the largest single industries in which the community is concerned. It will not therefore be out of place to say a few words upon the vicissitudes which English agriculture has experienced.

We have already seen that it was in England that the great agricultural improvements—such as good drainage, chemical manures and so forth—were first introduced, and for some time agriculture was in a flourishing condition. But the close of the century, the last thirty or twenty years of it, has seen a great decline. The manufacturing and mining industries seem to have absorbed more and more of the energies of the population, while the system of free trade has of course thrown our markets open to agricultural supplies from all parts of the world. This has been necessary in order to supply the want of the rapidly increasing population, but of course it has pressed rather hardly upon the British farmer.

It is said that the "golden epoch" for English agriculture was in the reign of George II. (1727–60), but that is a long time ago. It is, however, impossible to speak very accurately of those early days, as no proper statistics are available till the nineteenth century. But we do know that, till towards the close of the nineteenth century, the area under crops in the British Isles had increased by some four million acres, though in quite recent years it has diminished in favour of land under pasture. For quite half of the century the principal crop was, of course, wheat, and the area under this grain increased somewhat up to the year 1846. But a rapid decrease in acreage set in after 1870 to 1875, for the figures of these years show quite a million more acres under wheat than the figures of 1888, while the figures of 1897 show a still further decrease on those of 1888 of nearly another million acres. These figures speak eloquently of the fall in the value of wheat after the passing of the Corn Laws—a fall which has certainly benefited the majority of the English people, but has caused considerable hardship to the agricultural classes.

On the other hand, the area under grass has very greatly increased, but the average value of the grain crops was rather less in 1888 than in 1851, being then only one hundred and ten shillings per acre as compared with one hundred and twenty-seven shillings an acre in England at the earlier date. Yet, owing to agricultural improvements, the average produce per acre has been much larger than before. The celebrated agricultural writer, Arthur Young, in the eighteenth century, found that the usual average produce of wheat to the acre was only twenty-three bushels.

But just before the middle of the nineteenth century an equally celebrated economist (McCulloch) estimated it at thirty-one bushels an acre, and others have placed it even higher. In spite, however, of an increased yield per acre, it remains the fact that compared with the population the production of grain in the United Kingdom is less than half what it was at the beginning of the century, about 1830. It was then equivalent to seventeen bushels per inhabitant, but now only seven or eight.

At the same time, the consumption has risen in quantity, thus showing that the English people get more bread to eat than formerly. In the period 1831 to 1840 the consumption of grain was four hundred and sixteen bushels annually, whereas in 1881 to 1889 the annual consumption was five hundred and ninety-two millions. But in the earlier period quoted the amount of foreign grain imported was only two per cent of the total, while in the later period it was no less than forty-five per cent. These figures refer to all kinds of grain, but if we take wheat only, we find a still more startling result. In the period 1811 to 1830 the percentage of foreign wheat imported by England was only four per cent; in the period 1881 to 1889 it was no less than sixty-five per cent. It is therefore a matter for very grave reflection when we consider that the English people is becoming so entirely dependent upon foreign supplies of food. On the occasion of a great war England would be at the mercy of any foreign foe who could cut off her food supplies, and only the existence of a most powerful navy can ward off this very real danger.

Some idea of the progress of agricultural science, however,—to turn to a more cheerful subject—may be gained from the figures of the somewhat unsavoury subject of fertilisers. According to the statistician, Hermann Voss, the United Kingdom consumes annually two hundred and ninety thousand tons of mineral phosphates, of which—as usual—no less than ninety-three per cent are imported from abroad. It also uses for agricultural purposes one hundred and ten thousand tons of bones, or, in all, four hundred thousand tons of material, from which are produced eight hundred thousand tons of artificial manures. This is just four times as much as was used in the year 1860, so it will be seen that the British farmer has certainly availed himself of the opportunities afforded by the advance of chemical science. The amount of natural manure used is about a ton and [illegible] acre.

A more [illegible] de of English agriculture is seen in the figures [illegible] to the rearing of live stock and the production of meat. In the year 1812 there were about five million cattle in the United Kingdom, whereas in 1888 there were just double the number, viz.: ten million. The number of sheep has not increased so much, as there were said to be twenty-five million in 1812 and twenty-eight million in 1888, and the number of pigs has not increased much either. But the production and consumption of meat has shown an increase, especially the consumption thereof, owing to the amount of foreign meat imported. In the years 1831 to 1840 there were nine hundred and forty thousand tons of home-grown meat consumed yearly, and in the years 1881–87 one million and thirty thousand tons.

The quantity of meat imported was very small till well after the middle of the century. In the period 1851 to 1860 there were only forty-four thousand tons of foreign meat consumed, as compared with more than half a million tons in the years 1881–87, and more than three-quarters of a million tons in 1895. In this last year the average consumption of meat was one hundred and eight pounds per inhabitant, in the United Kingdom, as compared with ninety-three pounds twenty years previously. Mulhall, the statistician, shows that the inhabitants of Great Britain (excluding Ireland) eat even more than this, viz.: one hundred and fifteen pounds each, and they are fed, as it were, for only five months of the year on their home-grown meat, while for five more months they have to rely on what comes from foreign countries and for the remaining two months on what they get from Ireland. The Irish, indeed, eat very little meat, their average consumption per annum being only forty pounds per head, which is the lowest amount consumed in any European country except Italy.

The production of meat in Great Britain has, of course, not kept pace with the enormously increased consumption. It has certainly increased six per cent, but then consumption has increased fifty-four per cent since the year 1861 alone, even more if we compare it with a still earlier period. There is apparently no reason why the British farmer should not supply his fellow-countrymen with a great deal more meat than he does, and not allow his foreign rival to send so much. The market for bread and meat, and all food supplies, in England is simply enormous, and it seems a pity that the English farmer who is on the spot cannot compete more successfully with those who are thousands of miles away.

Still, the facts of English agriculture are not entirely of a gloomy character. We notice, for instance, that, whether the farmer has benefited directly by it or not, the use of machinery has introduced great and useful changes since the first quarter of the century. This has been accompanied, as we saw elsewhere, by an increased product per acre; but it has also one effect which is perhaps not so beneficial. The use of machinery, coupled also with the increase of pasture land as compared with arable land, has caused a decrease in the number of labourers employed on farms. The census of the year 1821 showed that thirty-three per cent of the total population of England was then engaged in agriculture, but that of 1881 showed that this number had most remarkably decreased, there being then only twelve per cent of the population so engaged, while in 1891 there were only just over ten per cent. This means a very serious change in industrial conditions. No doubt those who in earlier years would have been engaged in agriculture are now engaged in various kinds of manufactures, and other occupations, but these figures show, more clearly perhaps than anything else, the radical change that has come over English industry in the last hundred years. No other country in the world shows so small a proportion of its people engaged in agriculture as compared with those occupied in manufactures or in commerce.

Yet, as said above, the figures are not altogether discouraging. It is found that the amount produced per labourer is much more than formerly. In 1821 it was estimated that the value of the annual product per "hand" was about sixty-five pounds sterling in English money; though very probably this estimate is rather high. But in 1881, in spite of the great decline in the value of agricultural produce, each "hand" produced to the value of ninety-eight pounds sterling, this being an increase in value of thirty-three per cent. One fact which shows how the decrease in agricultural labour is partly accounted for, is the greatly enhanced value of all green crops, which of course do not require so much labour as grain. The value of the grain crops in England alone in 1831 was put at fifty-three millions sterling as compared with forty-one millions for the United Kingdom in 1889; while on the other hand the value of green crops was only fifteen million in 1831 as compared with fifty-three in 1889.

It is, however, unfortunate that although agricultural science has progressed so greatly, and though the average product from the land has also improved, the interests of agriculture as a whole have in Great Britain and Ireland so greatly declined in recent years. Even now, at the close of the nineteenth century, land is one of the great features of wealth in England, but it is by no means so valuable as once it was. The value of land rose very considerably during the eighteenth century; it is said as much as forty per cent at the time of the war against the United States; while the Napoleonic wars caused an even greater rise. The cause of this was the heavy price paid for grain, partly owing to the effects of war, and partly to the then existing Corn Laws. An upward movement, though not so marked, continued till about 1877 or 1880, but since then there has been a continuous decline.

If we compare the value of lands in the United Kingdom between the years 1812 and 1888 we certainly find some increase (from one thousand three hundred and eighty million pounds in 1812 to one thousand eight hundred and seventy-three million pounds in 1888), but this is only due to the increase of national wealth generally. It is nothing like so great as the increase in the value of town property (houses, etc.), which is actually almost ten times greater than in 1812, while the total wealth of the English nation is estimated to have increased five times in the same period. And it must be remembered that in 1888 the rental valuation was twenty per cent more than the landlords actually received.

But since 1880 or so the value of agricultural land has very seriously diminished. In April, 1889, the *Times* gave a record of all landed estates of over thirty acres sold by auction in London, and situated in England and Wales, for the previous hundred years. At the beginning of the century (1801--1820) land fetched, according to this, about thirty-six pounds an acre; then, for the next twenty years (till 1840) there was a decline to twenty-three pounds an acre; then, till 1860, a rise back to about thirty-six pounds; then up till 1870, a further rise to forty-three pounds ; and from 1871 to 1880 another rise to fifty-one pounds. But the record for the next seventeen years (1880–1897) showed a continuous fall, the average price being only twenty-six pounds ten shillings an acre—a decline of quite forty-nine per cent since the period 1871–80.

In the same way the assessments of land for taxation purposes show a decrease in a period of fifty years, namely from 1846 to 1896, the figures for England and Wales being forty millions sterling in 1846 as against thirty-nine millions in 1896. In Ireland, of course, as is well known, rents have been reduced by the Commissioners twenty per cent since the year 1880. In fact, since the days of the Franco-German war, which seems to have been a palmy period for the British agriculturist, the lot of the farmer in the United Kingdom seems to have been going from bad to worse. Several bad harvests occurred after 1874, and the summer of 1879 produced what was said to be the worst harvest of the century.

But of course the chief factor in the decline of British agriculture has been the competition of the American States and Canada. Between the years 1866 and 1883 the value of agricultural imports from abroad rose from some seventy-seven millions sterling to just double that figure. Or again, it may be noted that at the middle of the century (1851) the supply of wheat was three hundred and seventeen pounds (weight) per head and per annum for a population of some twenty-seven millions, and cost fifty-three million sterling; but in 1885 the supply was four hundred pounds weight per head for some thirty-six million people, and yet the cost was nearly ten million sterling *less* than before. These figures show the decline in the value of wheat very vividly. Thus thousands of farmers have been ruined, and agriculture generally has suffered a severe and prolonged depression. A very eminent agricultural authority, Sir James Caird, in giving evidence before the Royal Commission on Depression in Trade in 1886, estimated the loss of the agricultural community, as a whole, during the ten years 1876 to 1886, at the enormous sum of forty-two million sterling every year. It is certain that every class which is in any way connected with agriculture in the United Kingdom has suffered a severe diminution of income.

But we cannot believe that this will be always the case. The British Isles possess, for farming, very many advantages not enjoyed by less favoured lands, in spite also of various disadvantages of climate and of land laws. But British farmers possess a market for their produce which is larger than any other in the world; they are near that market while their competitors are thousands of miles away; and if they cannot grow wheat at a profit so as to compete with American, Russian, or Indian wheat, there are many other crops, and many other varieties of agricultural and pastoral products, to which they could profitably turn their attention. Instances are not wanting, even in the recent years of depression, of farmers who have made very excellent incomes by adapting themselves to the requirements of the local market, especially to the markets of the large manufacturing towns; and as long as the manufacturing population of the large towns requires food and is able to pay for it, so long there will be a steady and assured market for all the meat, grain and other produce which the farmer can bring out of the land. This is not the place to discuss the reforms in agricultural methods, or in the tenure of land, or other points which might throw some light upon the possibilities of the future; but many people who have studied the subject are convinced that the twentieth century will see brighter days for the British farmer than the closing years of the nineteenth; and that it will not be out of his power to supply the home market, which lies at his very doors, as well as any foreign rival.

CHAPTER XLVIII.

PROGRESS OF AGRICULTURE IN FRANCE, GERMANY AND RUSSIA.

We pass now to a country where agriculture forms a much larger item in the national wealth than it does now in England. France has the reputation of being the best cultivated country in Europe; and this is largely due to the existence of a number of peasant proprietors about whom we gave statistics in a previous chapter of this book. We find that even in wheat growing, which in England has proved so unremunerative, there has been a steady increase, though perhaps not a large one. But whereas in the year 1818 there were only some twelve million acres under wheat, there were in 1889 some seventeen million, while the number of bushels raised per acre had increased from eleven to seventeen and a half. Yet notwithstanding the increase in grain growing, France has had to import large quantities of foreign grain; for her population is a great deal better fed than it was earlier in the century, and her people require not only all the grain she grows but even more. From 1801 to 1849 her net imports of wheat alone cost her twenty-six millions sterling (in English money), but in the shorter period 1860 to 1886 they cost two hundred and eleven millions sterling. At the present time, to put the figures in a different way, France has to rely for two months of the year on imported grain, according to the most recent authorities available. It is said by Mulhall that the imports of grain would have been still greater, but for the rapid increase of potatoes, the growth of which has multiplied fivefold since the year 1820.

But, of course, the progress of agriculture in France is seen in the returns of wine growing. Yet here again, much as France produces, she cannot produce enough for her own people. Down to the year 1880 she was able to do so, but since then she has had to import wine, as well as export it. Since that year the imports have exceeded the exports. Indeed, in the three years 1893 to 1896 the annual imports were no less than three times more than the exports, the former being 120 million gallons and the latter only forty millions. In some years the imports have been considerably more than this; but this was due largely to the terrible ravages of the phylloxera pest in the years after 1872. The phylloxera completely destroyed nearly three million acres of vines, one-half of which have been newly replanted with American and other vines. It also more or less injured one and a half million more acres. Of more than six million acres of vineyards in 1870–72 only two millions, or one-third, escaped this pest, the effects of which have been felt for many years afterwards. In 1895 there were still nearly two thousand acres less land under vines than in 1871, while the amount of wine produced in the latter year was not much more than half the quantity of the former. At the same time, however, if we take an average, the amount of wine produced per acre is rather more now than it was during the forty years before the phylloxera pest. Most of the destroyed vineyards have been laid down under potatoes or beet root, the area under both of which increased by over a million acres between the years 1880 and 1895.

The beet root industry is, indeed, a very valuable crop, having been introduced, as we saw in an earlier chapter, by the influence of Napoleon I. But it was not till quite a quarter of a century after the battle of Waterloo that any great progress was made in beet growing. In the year 1840, for example, there were only two hundred thousand acres under this crop, and in 1860 rather under half a million. Since then, however, this industry has taken rapid strides, so that in 1886 there were more than one and a quarter million acres occupied by this plant and the yield had reached the large quantity of fourteen (in fact nearly fifteen) million tons.

Of course in this case, as in so many others, agriculture has owed much to the advance of science, especially to chemistry, and beet growers have learned more and more widely how to cultivate the root, and extract the sugar on really scientific principles. Thus about 1880 the amount of sugar made from beet root exceeded four hundred thousand tons annually, as compared with only thirty-five thousand tons some fifty years previously. But in the last twenty years the production of beet sugar has increased enormously, and from four hundred thousand tons in 1876 the amount of sugar now extracted in France has risen to seven hundred thousand tons (in 1898), of which about two hundred thousand tons are exported. The actual amount of sugar consumed by the French themselves, however, is very much less than that eaten by the inhabitants of England, the United States, or Canada.

While upon this subject we may take the opportunity to notice once more how science has aided agriculture, for the yield of sugar from a ton of roots has increased nearly seventy per cent since the middle of the century. In the same way, also, an improvement is seen in wheat growing, for although the area under wheat in France is not much more at the close of the century than it was forty years ago, yet the weight of the crop is one-fourth heavier, so that it is evident that in many ways the French agriculturist has made progress in this great and important industry. It is also noticeable, in reference to this subject, that between 1848 and 1888 no less than nine million acres of waste land were reclaimed, and brought under useful cultivation. It was not till after the reign of Louis Philippe that this great progress began to be so marked, though to some extent it had been going on ever since the French Revolution, which freed the peasantry from feudal oppression and gave them a far deeper interest in the proper cultivation of the soil. But after the date mentioned machinery began to be more used. We are told by Mulhall that in 1840 it was quite common to see horses used for treading out grain; but some twenty years later (1862) an official report on agriculture showed that France possessed more than a hundred thousand threshing machines, nearly three thousand of which were worked by steam.

The result of improved methods—of which this is, of course, only one example—was seen in the increased yield per acre. We have already mentioned the increased weight of the wheat crop, and may here add that statistics of the fifty years from 1825 to 1875 show that the quantity of wheat raised per acre increased by three bushels, that of barley by eight, and that of oats by ten bushels. The same improvement is seen in the case of live stock. The number of cattle kept has been more than doubled between 1812 and 1888, being only some six million head in the one year, and over thirteen million in the other. The number of sheep however, has, it is curious to notice, rather decreased, but the number of horses and pigs is much larger. The number of persons actually engaged in agriculture in France declined seventeen per cent between 1857 and 1888, but still the percentage of those engaged therein is very large, being forty-four per cent of the total population, and the value of products per head has very greatly increased, being in 1886 some seventy pounds sterling (in English money) as compared with about forty-nine pounds per head in 1851.

The increase of agricultural wealth was rapid down to the year 1881, the increase being estimated at forty-six million sterling every year in the period 1836 to 1852, and thirty-six million sterling annually from the latter year down to 1881. But since then a decline has set in, and France has suffered as severely as England from agricultural depression. Pastoral industry has been during the last twenty years (1880–1900) almost stationary, the numbers of live stock showing only a very small increase, while the prices of grain crops, dairy produce and wine have all fallen considerably. The loss of agricultural capital, resulting from all this depression, since 1880 has been very heavy indeed; perhaps even more so than in England, and is estimated to have averaged quite thirty-two millions sterling every year. Thus we have in France the same phenomenon as in England; real progress in agricultural science and skill, but less return upon capital and less profit for the peasant and farmer.

AGRICULTURE IN GERMANY.

Turning to France's great neighbour, Germany, we find that there agriculture is not so well developed, and progress has not really been so great as far as scientific application goes, though compared with the earlier part of the century German agriculture has made a very considerable advance. There were in 1887 nearly twice the number of acres under tillage as compared with the year 1816, namely, forty-four million as against twenty-three million; while the production of grain has been more than doubled in the same period. It is further remarkable that the area under crops is still increasing, contrary to the experience of England, and (to some extent) of France; for the area under wheat in 1896 was slightly larger than in 1882; and the general area under crops in these same fifteen years has risen about twelve per cent. The improvement in the quality of the produce has also been very marked, for the average weight of the crops (excluding hay) in the three years ending in 1896 was seven hundred weight per acre heavier than in 1880–82, which is an improvement of thirty per cent. Yet with all this recent improvement, agriculture in Germany as a whole is even now not really so advanced as in France, England or the United States; in fact, eminent authorities like Mulhall describe it as backward.

Of the large area of the German Empire, not half is under cultivation (only forty-eight per cent), and yet as many hands are employed as in the United States. The production of food is estimated at only five tons per hand employed, as compared with fifteen tons in the United States, which shows at once how different are the conditions of agriculture in the two countries. However, German agriculture is still progressing, but it will have to progress a good deal further before it ranks with that of the countries we have already mentioned. Still, compared with its own state in an earlier period, German agriculture has advanced considerably and the value of farm products has almost doubled since 1856, and although the population is now fairly dense, the number of live stock goes on increasing, which is not usually the case when population is increasing also.

It would appear that agriculture is least advanced in Prussia, for although this state contains sixty-five per cent of the productive area of the empire, it only produces sixty per cent of the total value of all farm products. Another fact, of a still more striking nature, about German agriculture, is that the capital it represents is estimated to be six hundred million sterling less than that of its neighbour France. If the total agricultural capital were divided up among the total number of farms, it is found that it represents about £840 (English) per farm, as compared with £880 in France, and £3200 in England. This way of putting it shows at a glance two very salient features of German agriculture; it is carried on by small farmers, or peasant proprietors, whereas English agriculture is carried on in much larger farms; and also, although France is also like Germany a country of small holdings, the average capital per farm is larger in France than in Germany, thus indicating a higher standard of cultivation. Or again, a still more significant indication of the comparatively backward state of German farming is that the quota of agricultural product to each farm hand is only forty-four pounds sterling (English money) as compared with fifty-eight pounds in France and ninety-one pounds in England.

The principal crops are wheat, rye, barley, oats, potatoes, and beet-root, but tobacco and hops are also important, though in late years the two last crops have shown a tendency to decline. Of course, as is well known, there is a considerable area of land in Germany under vines, and the production of wine is large; but the yield shows very extraordinary fluctuations, that of the year 1889 for instance being double that of 1887. But the most valuable crop in Germany, it is curious to notice, is potatoes, and then come rye and hay. The dairy products and meat also take a high place on the German list, and, as regards value, wine takes a very low one. It would appear that Bavaria rejoices in the best return for its labour, for the value of agricultural products there is twelve pounds (English) per inhabitant, which is just twice the figure for Saxony, while the rest of the empire works out at about nine pounds a head.

But, though backward, it is pleasing to notice that German agriculture has made much progress since 1840, for at the present time, owing to improved methods and some use of machinery, one man can produce as much as two—or in some cases even three—did then. The years 1848 to 1858 were specially noticeable for progress, and for an increase of agricultural capital, since that was the time when the large estates of former days began to be broken up among the peasants, whose industry thus received a fresh stimulus.

RUSSIA.

Going farther, we notice Germany's great neighbour on her eastern boundary. It has already been stated that Russia is one of the countries in which agricultural interests preponderate, but it cannot be said that agricultural progress has reached a high level. On the other hand, a great improvement in the productivity of the land has been noticed since the emancipation of the serfs, of which we gave an account in an earlier chapter. This event (in 1861) was rapidly followed by a great increase in the production of grain, and also by a great rise in the value of land. Before the Crimean war, the ordinary price of land was only a pound an acre, but the British ambassador in 1869 said that since the emancipation the value of land had been already doubled, and an estimate by a Russian economist in 1879 showed that it had trebled. Even then, however, it could not be called high. But Mulhall states that in the twenty-six years from 1860 to 1886 the emancipation of the serfs had added some twelve hundred million pounds sterling to the wealth of the rural districts.

The farm of the Russian peasant, or moujik, averages only thirty-five acres, and requires as a rule about three men to cultivate it, but the yield of wheat is only a quarter of what it is in England. The rearing of cattle does not seem to make much progress, for the amount of meat produced has rather declined than increased during the century. The Russian peasant, in fact, eats very little meat; less than half the amount eaten by an Englishman or a third of that eaten by an American; though on the other hand the Russian consumes a good deal more grain. But the grain he uses for food is not wheat, such as the Englishman or American expects as a matter of course. It is only rye or oats, and often of very poor quality even then. He has only about a quarter of the butter and cheese consumed by the American and English peasant (five pound weight as against nineteen or twenty), and had in the sixties only about a seventh of the Englishman's sugar, though rather more since. The amount of tea was then also very minute, as so much brandy is drunk; but of tea only six ounces as compared with an average of ninety-one ounces in England and one hundred and sixty-two ounces in the United States.

In fact, the Russian agriculturist lives poorly himself in order that he may export food to foreign nations. The exports of grain were in 1887 not far short of two hundred million bushels; of which seventy million were wheat and sixty millions oats. There were also thirty-one thousand tons of meat exported. The exports of grain in 1897 were in excess of those just given, although there is a great fluctuation in the crops, and the wheat crop of 1897 was a poor one. A very prominent feature of rural economy in Russia in quite recent years has been the remarkable development of the export trade in eggs. Russia is now (1899) one of the largest exporters of eggs in the world, sending out, it is said, four million eggs every day. Her neighbour Germany takes most of them, partly for herself and partly for re-exportation. This vast export trade has nearly all developed in the last twelve years or so of the century. On the other hand the production of butter and cheese is very small.

In recent years the Russian peasant has evidently become a little better off than he was even in the "eighties," for the consumption of sugar has increased during the last fifteen years of the century, and so has that of tea and coffee. But, unfortunately, brandy remains the chief drink of the people, as we noted earlier in the century, the quantity drunk being stated officially at one hundred and sixty million gallons, though this is supposed to be only half the actual consumption owing to the quantity distilled illicitly. As a whole, Russian agriculture cannot be said to have reached a high level even at the close of the century, though it is better than it was a hundred, or even fifty, years ago.

CHAPTER XLIX.

PROGRESS OF AGRICULTURE IN OTHER EUROPEAN COUNTRIES.

We must now give a briefer survey of the remaining nations of Europe, and, of those we have not yet mentioned, Austria-Hungary is undoubtedly the largest. We have already seen something of the condition of this dual monarchy up to the middle of the century; but we note that, even now, not half of its vast area is brought under cultivation. Only forty-three per cent of the empire is cultivated, no less than thirty-one per cent being forest land, and twenty-six per cent pasture plains or waste lands. Moreover the area under crops has increased very slowly during the last half century, though the increase is still proceeding. Of course, however, compared with an earlier period, a good deal of progress is visible. The total wheat crop of Austria-Hungary in 1887 was more than three times what it was fifty years before that (1836), and so was the barley; but the oats and rye crop show only a moderate increase. Grain, in fact, increased ninety per cent in crop between 1836 and 1887, and is still (1899) increasing, though the area under crops has not increased more than twenty per cent.

This improvement is due to better cultivation, owing partly to improved methods—as elsewhere—and the use of machinery, and partly to the amelioration of the lot of the peasantry since 1849. Before this time the peasants were, like the Russians, merely serfs; but after their emancipation such an improvement occurred in agriculture that Austrian economists say the value of land was doubled in the twenty years between 1846 and 1866. Agricultural capital was also doubled in this period, rising from some seven hundred million sterling (English) to over fourteen hundred million; while in 1885 it was estimated at seventeen hundred million. There are, however, in spite of this two curious points about Austrian agriculture; first, that the production of wine has seriously declined during the century, being now only one-half of what it was formerly; and the second, that the production of meat per inhabitant has also declined, being only fifty-seven pounds ([illegible]) in 1880 as against sixty-seven in 1836. The value of the various kinds of live stock is also twenty per cent less than in the neighbouring empire of Germany.

The value of agricultural products per labourer is also still very low, being only thirty-one pounds sterling (English money) as compared with seventy-one pounds for France and ninety-eight for England. The area under grain, however, continues to increase, the rise being at the rate of half a million acres annually since 1883; but pastoral industry seems to make practically no progress; in fact the latest returns only give about forty million head of live stock as compared with forty-five million in 1870. The bulk of the peasants remain very poor, though the large landowners of Hungary and Bohemia enjoy enormous revenues. On the whole, the progress of Austria-Hungary has not been very great, and there is ample room for further development.

The agriculture of Italy does not reach a really high level, but has greatly improved during the century, though it is not so good as in France, and, considering the advantages of the soil and climate, it might be better. But the area of arable land has been greatly increased during this period, and from the various estimates made since the year 1828 it appears that the production both of grain and wine was doubled in the sixty years after that date. But then it must be remembered that Italian agriculture was in a very depressed state in the early part of the century. The expulsion of the Austrians in 1859 seems to have filled the peasantry with new hopes and energy, for after that event the increase of all crops, especially in Lombardy, was very remarkable. Wheat then increased in production (from 1845 to 1874) by eighty per cent, maize by ninety-five per cent, oil over a hundred per cent. The quantity of live stock has also increased during the century; but unless the earlier statistics are unduly high the production of meat per inhabitant shows a considerable falling off.

The value of the product per agricultural labourer—a sure test of agricultural progress—has only increased slightly, it being in 1840 thirty-two pounds in English money, and in 1888 thirty-eight. Yet the Italian peasants are indefatigable workers, and in the fifteen years 1880 to 1895 reclaimed nearly five million acres of land, previously uncultivated. But the grain crops are very light, rarely exceeding thirteen bushels to the acre, which is very low compared with England, or even France. The production of wine, again, is only about seventy gallons per acre as compared with one hundred and seventy-six in France, and rarely exceeds at the best more than ninety gallons per acre. At one time rice was very largely cultivated but in the last twenty years of the century its cultivation has fallen off a great deal, possibly because the growth of rice is a very unhealthy occupation. If we take a survey of the whole cultivated area, including the pasture lands, we find the value of the product only averages seventy-seven shillings per acre as compared with ninety-two shillings in France. In spite, too, of her fertility, Italy cannot supply her own population with grain, but has to import some seven hundred thousand tons of it annually. We may conclude from the foregoing facts that, though things are much better than they were earlier in the century, there is ample room in Italy for further progress.

While in the South of Europe we may glance at Spain, but find that agricultural progress there has been much retarded by civil war and internal dissensions. The average value of all products is even less than in Italy, being only fifty-one shillings an acre. The most important feature is wine, in which Spain holds the third rank among nations, producing a little (one-fifth) less than Italy, and about half the quantity of France. Only about thirty-seven per cent of the total area of Spain is cultivated, and this is said to be even less than it was formerly, owing again to internal troubles. Portugal seems in a worse case than Spain, as the value of products there is only forty-five shillings an acre; while the unfortunate system of land tenure is driving many people out of the country by emigration.

We find a much more prosperous state of things if we leave the South of Europe and go north. We need hardly trouble about the Danubian states, or Greece, or Turkey, for although agriculture is in these the chief occupation, it is in a very backward state. Mulhall significantly remarks that the number of hands engaged is out of all proportion to the results obtained; and the average product per hand only works out at twenty-one pounds English money, which is extremely low. These countries cannot require much mention in a history of "progress."

But as we go north we pass Switzerland, where, in spite of many disadvantages, agriculture is comparatively well developed. It is a country of small holdings, the average being only four acres under tillage, and thirteen acres for pasture; but of course in so mountainous a land, much in the way of results cannot be expected. The Swiss, however, excel in dairy farming, and their "condensed milk" is known all over the world. The export of this milk, together with cheese, exceeds forty thousand tons every year, worth three million pounds sterling. Here especially we note how science has come to the aid of the farmer, and shown him how to preserve that delicate product milk for export to all parts of the world in a state almost as fresh as when first drawn.

Still further north we notice the high state of agriculture in the three little kingdoms of Denmark, Holland, and Belgium. In Denmark great progress has been made during the century in reclaiming wasteland, especially between 1866 and 1876, but even more from 1876 to 1881. Most of this land was turned into meadow and pasture, and the result has been seen in the excellence of the Danish dairy products. The production of grain has increased enormously, and is now three hundred thousand tons a year, having largely risen even in the last fifteen years. The crops of hay are also very large and profitable. The production of grain actually exceeds one ton per head of the population, but pastoral industry is also very thriving, and Denmark bears a very high proportion of cattle to its area under pasture, having ninety-two cattle per hundred acres, as compared with seventy-five in Great Britain. The area of Denmark is of course small, yet the value of products is as high as ninety-nine shillings an acre, even in these days of agricultural depression, whereas in France it is now only ninety-two shillings per acre, in spite of a much better climate. Denmark exports meat, butter and eggs to the value of ten million pounds sterling per annum; while the total agricultural exports work out at five pounds (English money) per head of the population. Even Canada and the United States only export to the value of two pounds per head, so that these figures show very clearly how far advanced Danish agriculture must be.

This progress is due to the intelligent use of modern methods and new machinery. But the Danes would not have been so ready to use these if they had not been well educated, and it is a remarkable fact that not only general education but also technical education reaches in Denmark a very high standard indeed. In agriculture, technical education has done a very great deal to popularise modern methods among farmers and peasants, with the excellent results which we have noted above. It has taught the Danes that in the long run the best methods and the best machinery are the cheapest, because they are the most profitable; and nowhere is newer and better agricultural machinery employed than in this energetic and advanced little country.

We also find that Holland stands very high among agricultural nations compared with its small size. The yield of grain is actually seven per cent higher than in Denmark, and although the area under grain is ten per cent less now, at the close of the century, than it was some fifteen or twenty years ago, the crops are very much heavier, being—for all grain—an average of thirty bushels an acre, as compared with twenty-six in 1880–2, while the averages of root crops, such as potatoes and beet root, have also greatly improved. At the same time horned cattle have increased, though the increase is only two per cent; but there has been a remarkable increase in pig-rearing, the number of pigs having risen over ninety per cent in the last twenty years.

The care spent on the dairy has been well rewarded, for the export of dairy products is now more than one hundred thousand tons yearly. Special attention has also been given to grazing, and to the promotion of good pasture; so that the pastures are often so rich that cattle for the market often weigh as much as a ton, while milch cows give an average product of two hundred and fifty pounds of cheese and butter —a result not surpassed in any other part of the world. The export of butter, cheese, meat and vegetables is worth over five million sterling per annum. The value of products is also very high, being equal to one hundred and forty-two shillings a head as compared with ninety-two shillings in France and ninety-six in Great Britain. The Dutch farmers, in fact, says Mulhall, are apparently the richest and most prosperous in the world. The farms only average about thirty-four acres, and yet the average capital is eighteen hundred pounds sterling in English money, while the gross output averages two hundred and twenty pounds. It is easy to see, therefore, that, in Holland, at any rate, the history of agriculture during the century has been a history of considerable progress.

The condition of agriculture in the neighbouring kingdom of Belgium, though flourishing, is yet somewhat different from that among the Dutch. Belgium is more a country of *petite culture*—a land of market gardens and spade cultivation. It yields, as may be expected on this system, a very large amount of agricultural products in proportion to its extent, the average being even higher than the high product of Dutch farming, namely, one hundred and sixty shillings per acre. Here again the last fifteen or twenty years of the century have witnessed an improvement in the growth of crops, but not so great as in Holland. The industry of the people, as may be supposed, is very great, but yet Belgium does not produce food for more than sixty per cent of her population. The statistician, Mulhall, points out that this is due to waste of labour, for, according to the number of hands engaged in agriculture, there ought to be enough to produce food for double the population of the country. He ascribes this to a want of proper machinery, and asserts that the high produce per acre, just mentioned above, so far from being advantageous, "is, in an economic sense, deplorable." He is especially severe upon the old adage, supposed to be applicable to Belgium industry, that "the plough is silver but the spade is golden," which "contains as much nonsense as can be conveyed in so few words." In the last few years agricultural capital has fallen heavily, but the value of the product as compared with Holland is about the same, viz., twelve per cent on capital. But in spite of the severity of our great statistical authority the produce of the land has vastly increased during the century. The amount of grain has been more than doubled, having been only thirty-three million bushels in 1828, as compared with seventy-four million in 1886. The number of horned cattle has also greatly increased, though the number of sheep has diminished. It is therefore evident that the course of the century has witnessed in Belgium considerable progress in agriculture, though not perhaps so much as in Holland and Denmark.

CHAPTER L.

PROGRESS OF AGRICULTURE IN AFRICA, AUSTRALIA, ASIA, AND SOUTH AMERICA.

WE must now devote a few words to the progress of agriculture in other parts of the world, leaving the United States and Canada, as being the most important, to the last. Outside Europe, we find that the United States produces the largest amount of wheat, the chief crop for human food, but India comes next, the amount of wheat there produced having increased considerably of late years. Australia and Canada have also produced more, but the country which shows the fastest increase of any is undoubtedly Argentina, for there the wheat crop, in the twenty years from 1876 to 1896, has increased from six million to fifty million bushels. Yet Argentina is famed as much for its pastoral resources as for its crops, and bids fair to become one of the great agricultural producers of the world.

We must, however, proceed to the various countries in due order, and thus, leaving Europe, we pass to Egypt. In this historic land, agricultural progress is not great, as regards the application of science to cultivation, and it never will be till its natives rise to a higher level of civilisation. Yet as regards the amount produced, Egypt has progressed wonderfully during the second half of the century. In fifty years the area under tillage has been almost trebled, and much of this progress was due to the famous ruler, Mehemet Ali, who, when he was dying, in the year 1848, was able to boast that in his reign the area under crops had been already almost doubled. Progress was also made under his grandson Abbas, and still more under Ismail Pasha (1863 to 1879), while since the British occupation during the last fifteen or twenty years of the century, the Egyptian peasant has had a much more prosperous time and the results of his labour have improved.

It is hard to find reliable statistics to show the growth of Egyptian agriculture, but in 1834 it was stated to stand somewhat as follows: There were eighteen million bushels of grain produced, twenty-two million pounds of raw cotton, five million tons of tobacco, three thousand tons of flax, and sixteen hundred tons of sugar. This represented then a total value of some four million sterling in English money. Fifty years later the value of the crops was returned at thirty millions sterling—a more than sevenfold increase. Grain and cotton form the two most important crops, and the production of cotton has increased enormously. In the period 1821 to 1830 the crop was only fourteen million pounds (weight) per year, but in 1881 to 1887 the annual average was two hundred and eighty-eight million pounds. Of course, as is well known, the prosperity of agriculture depends in Egypt, as much in the nineteenth century after Christ as it did in the nineteenth century before Christ, upon the annual rise of the River Nile; and it is said that the difference of only one foot in the flood level means a difference of two millions sterling in the value of the produce of the soil. Hence it is pleasing to notice that since the British occupation great attention has been given to the question of irrigation by means of artificial canals.

Passing further east to India, we find it extremely difficult to gauge the progress made in that vast empire. There has, in one way, certainly been progress under British rule, for it has given India a more efficient government than it has ever possessed before, and that makes for progress in every department. But we have no adequate statistics to guide us for a large portion of our period. It is, however, noticeable that the production of wheat has in the last twenty years or so increased from two hundred million to two hundred and twenty million bushels, and that India has taken her place among the great exporting nations. The export amounted to seven hundred thousand tons in 1888; but a far larger crop is rice, of which in the same year just twice this quantity was exported, while the quantity of rice grown in India was just four times the quantity of wheat raised. Cotton again is a very large crop, and so is jute, while tea, coffee, sugar, and oil seeds all figure largely in the export list.

A great feature of India's culture in late years has been the development of tea plantations, and whereas, earlier in the century, China tea was almost exclusively drunk, at least in England, Indian tea has the preference. In 1888, for instance, the consumption of Indian tea in the United Kingdom was one hundred and five million pounds (weight) as against seventy-eight million pounds of Chinese tea; and yet ten years before that date, India supplied only seventeen per cent of the tea used there. As regards the general state of Indian agriculture, it is very poor, and the productive area is too small for the actual population. The agricultural area is only one acre to each inhabitant, but it is said that it might be increased sixty per cent. The farm products come to a very small average per head, being at the rate of only ten pounds English money for each adult male peasant. There can be no doubt that there is room for much greater development in India, and this is also the case with the greater part of Asia.

It is to the southern hemisphere that we must look for startling facts and figures of progress. There we find Australia and New Zealand proving themselves during the last half century to possess agricultural resources of a vast extent. The progress made there both in tillage and in pastoral industry is enormous. So late as the year 1861 New South Wales had less than three hundred thousand acres under cultivation; but in 1888 there were one million. Victoria had only some four hundred thousand acres under cultivation at the earlier date, but nearly two and a quarter million at the later date. In 1896 both colonies had still further increased the cultivated area; by more than half a million acres in each case. Similarly in New Zealand there were less than a quarter of a million acres cultivated in 1861, but near five million in 1881, seven and a half million in 1888, and now there are well over ten million. The whole area under grain in all the Australian colonies, as well as Tasmania and New Zealand, is, at the close of the century, some six million acres, bearing a crop of nearly one and a half million tons.

Yet the agricultural development of the colonies is not very great, for the average produce of grain per acre is rather small—being, in fact, less than ten bushels, as compared with twenty-one bushels in the United States. About a fifth of the crop is exported. But, of course, tillage is, in nearly all these colonies, only of secondary importance. It is the flocks and herds that constitute the wealth both of Australia and New Zealand; and the figures of progress here are quite amazing in their magnitude. If we look at the first few years of the century, we find Australia possessing (in 1800) only a little over a thousand cows and six thousand sheep. Ten years later there were twelve thousand cows and twenty-five thousand sheep. In 1861 the cattle had increased to over four millions, and the sheep to more than twenty-three millions. A quarter of a century or so later, and we find, in 1888, more than nine million cattle, while the sheep had risen to the enormous total of ninety-six million.

The horse-breeding industry has also become important. Starting with a modest two hundred horses in the year 1800, we find the number of seventy thousand reached by the date 1842, and twenty years later (1861) it is getting on for half a million. Then, in 1888, the number rises to a million and a half. Coming later down the century, we find the horses still increasing to not far short of two millions in 1896, while cattle numbered well over twelve million, and the sheep came to one hundred and ten million. There was a great increase in live stock in the ten years from 1881 to 1891, but since the latter year there has been some falling off. The chief feature in Australian agricultural life, as will readily be seen, is sheep-rearing, and the annual clip of wool averages some three hundred and twenty thousand tons, of which three hundred thousand tons are exported. Yet it is surprising to find that Australian pasture lands are generally poor, and that they rarely carry more than three hundred sheep to the square mile, whereas in the Pampas of Argentina—another famous sheep-rearing district—as many as a thousand or fifteen hundred head are allotted to the square mile.

Besides wool, some portions of Australia are becoming well known for their wine. This is comparatively a new feature, for the vineyards, now covering some sixty thousand acres or more, have trebled in area since 1886. The average vintage is four million gallons, but this, when reduced to so many gallons per acre, only comes to seventy-two, which is about half the quantity procured from an acre in Europe. New South Wales has the richest vineyards, producing as much as a hundred gallons to the acre, and South Australian vineyards give eighty-five; but those of Victoria only sixty. Still, the growth of Australian wines now forms a valuable industry, and one which will no doubt improve in course of time, as more scientific knowledge is acquired and better methods are adopted by Australian wine-growers.

The whole history of Australian agriculture during this century has been one of progress, and this is specially the case with sheep-farming, where the skill and science of breeders have been called into play, producing results that have conferred enormous wealth upon these new colonies. We have only had space to indicate very briefly the nature of Australian progress, but we trust sufficient has been said to indicate the vast developments which this century has seen on the island continent.

We have not quite so satisfactory a record in another British colony—South Africa. There, too, tillage is secondary to pastoral industry; but the latter has not prospered to the extent that it has done in Australia and New Zealand. The area under crops has only increased slowly, and towards the close of the century was (in 1893) only about one and a half million acres, the great bulk of which—in fact, nine-tenths—is under grain, though Natal has a very fair sugar industry. The number of cattle has, of course, increased, and in the fifty years from 1840 to 1889 was multiplied fivefold, though even then it only came to one and a half million head. Sheep have been more progressive, the flocks increasing sevenfold—from two to fourteen million—in the same period; but they have not increased much since, according to the latest figures.

A special and valuable feature, however, of farm life at the Cape is ostrich farming, for the sake of the feathers; and this has proved a very profitable industry. There are now about two hundred and twenty thousand of these birds on ostrich farms, and each bird yields on an average feathers to the value of fifty shillings every year, so that it will be easily seen that here is a good source of profit. The weight of feathers exported has increased from a quarter of a million pounds to quite double that amount, and often more. Angora hair is also a valuable export, which has been developed, the weight of hair being in 1885 some five million pounds, and now more than double that weight. It may also be mentioned, under this head, that the weight of the single fleece of the sheep has increased forty per cent since 1865, so that in all these three departments of pastoral industry—feathers, wool and Angora hair—considerable improvement has taken place. The Cape is also known to some extent for its wines, and there are now some thirty thousand acres of vineyards, but there is room for a good deal more progress in wine-making. But for various reasons the colonists of South Africa have not shown, in agriculture, that spirit of progress which has animated Australia and New Zealand, and the wealth of the South African colonies, under this head, is by no means so imposing as that of the Australians.

We have intentionally left to the last the greatest agricultural countries of all—those of the New World. There we find that progress, in the proper sense, is confined mainly to North America, though certain portions of South America deserve honourable mention. Chief among these southern countries comes, undoubtedly, Argentina, which in the last quarter of the nineteenth century has taken a very prominent place indeed among the world's great agricultural producers. The area under crops in Argentina has risen from the practically insignificant amount of three hundred and seventy-five thousand acres in 1854 to over seven million in 1889, and over fifteen million in 1897. With this increase, Argentina has taken its place among the great grain-exporting countries, and in less than ten years the export was multiplied tenfold. It was only forty thousand tons of grain in 1880, but in 1889 was four hundred thousand tons.

In the year 1893–94, the export of wheat alone reached the enormous total of one and a half million tons, but this was exceptional, and the average of the closing years of the century has been just double that of 1889, that is, eight hundred thousand tons, Yet the crop is by no means a heavy one to the acre, being only on an average nine bushels, as compared with thirteen in the United States. Maize is a very important crop and covers one-third of the grain area, but the yield is rather uncertain, though the export is generally large. Alfa grass, useful for fattening sheep and cattle, is largely grown, so is sugar, and so are vines, all in recent years. During the last twenty years especially, tillage has made great strides, and this is largely owing to the influx of Italian immigrants, who have done much for the country.

But though tillage has made such progress, the greater portion of the wealth of Argentina is to be found in its pastoral industries. The immense pampas of this portion of South America afford space for countless flocks and herds, and the total number of sheep, horses and cattle grazing there is over a hundred millions. This number, although large, is not a very great increase upon the last few years, but it is nearly three times as many as there were in 1864. Of late, the improvement has been rather in quality than in quantity, for the breeds of the various animals have been greatly improved by farmers procuring valuable stock for breeding purposes from England. An example of the good results of this procedure is seen in the fact that the weight of the average fleece has increased in twenty years from three to five pounds, while the weight of the sheep itself has increased in like proportion.

Many of the best sheep farms belong to Scotch and Irish settlers, and the progress of Buenos Ayres especially is said to have been largely due to Irish farmers. On the other hand the rearing of cattle is mostly in the hands of natives, who own estates or *estancias* varying from thirty thousand to four hundred thousand acres. The total value of the farming product per inhabitant is higher than in the United States, but less than in Australia, though the return upon capital is twenty-five per cent, which is more than in either of the other two countries. These pastoral industries form the most important feature of other South American States, but we have not space to go further into them. It may be remarked, however, that though Argentina has developed its pastoral resources more than any similar State, and possesses perhaps greater natural facilities, there is ample room for further development, both of tillage and pastoral industry, in other South American countries; and with a better government, and the influx of industrious European immigrants, their wealth might be enormously increased.

CHAPTER LI.

AGRICULTURAL PROGRESS IN THE UNITED STATES.

We now come to what is the largest agricultural nation in the world—the United States of North America. In spite of the immense development of manufactures, these States still hold a foremost place also in agriculture, and agriculture holds, too, a foremost place in their national wealth. "Ceres," remarks the buoyant author of *Triumphant Democracy,* "is the prime divinity of the Republic." In 1880 the States had taken the first place of all among the chief nations of the world as regards the products of the soil, "having marched in a little more than a century from the foot to the head of the column." Russia, it may be noted, came next, and then France and Germany fairly close together. At the end of the century America is still at the top of the list, but is farther than ever removed from the second. It is now estimated that the United States produce more than one hundred and thirty million tons of food every year, while Russia can only produce seventy-six million tons, and all Europe together only two hundred and seventy-seven million tons, or rather more than double the Republic's total.

Even now the vast resources of the United States are only in a comparatively early stage of utilisation, and agriculture is by no means carried on as a whole so scientifically as in Great Britain, nor is the product of the soil so great in proportion to the acre.

The States, for instance, only produce twelve and a half bushels of wheat to the acre as compared with thirty-three bushels in England, so that if farming was advanced to the same pitch as in England the soil of the States would be able to produce more than twice as much as it now does. At the same time, the North American Republic has shown great skill in inventing and employing more machinery in the operations of agriculture than is usually used in the kingdoms of Europe.

The period when agriculture in the States made the most rapid strides has been since the middle of the century. During the first half of the century the production of grain increased with considerable rapidity, but increased after 1850 still more quickly. The total grain product in 1800 is stated to have been one hundred and sixty million bushels; in 1840 it was over six hundred million; in 1850 over eight hundred and sixty million; but in 1870 this last figure was doubled (one thousand six hundred and twenty-nine million bushels), and then in ten years more (1880) was more than trebled, being then over two thousand and seven hundred million bushels. At the close of the century the annual grain production is between three and four thousand million bushels, or eighty-nine million tons of grain—a truly colossal total.

Much of this increase has been due to the increase in the amount of land taken into cultivation, for, in the period between 1850 and 1880, the amount of improved land was almost doubled. It is a noticeable fact that although there are many farms in America of a size altogether unknown in Europe, the tendency has been for the average size of farms to diminish rather than to grow larger. Ever since 1870 the area of land improved has been doubled, and farming has made great strides in the Pacific and Western States. This is only natural when we consider how the West has been opened up by railways, and how the modern facilities for cheap transport have enabled farmers almost to disregard distance when sending their produce to market.

It is in the West that these large farms are found; indeed the tendency seems to be for the Western and Southern farms to grow larger, while those of the Eastern and Middle States grow smaller. Certainly statistics show that in the Pacific States the number of acres per farm labourer has considerably increased (from forty-two in 1870 to seventy-three in 1890), while in the Middle States the number has grown less (from fifty-three to forty-three acres to each man). On the other hand, taking all farms together, we find that the number of labourers required is less in proportion than it used to be; and each labourer cultivates sixteen acres more than he did some thirty or forty years ago. This is probably owing to the greater use of machinery and to improvements in its construction. In fact, Mr. Carnegie states that improved implements and machinery have revolutionised American agriculture. Their value was estimated in 1830 at some thirty millions sterling, but in 1850 it had been already trebled. Its value now is not stated, but must be enormous.

This widespread use of machinery in America is due to three causes; partly the scarcity of labour, which has necessitated greater economy in labour than is general in Europe; partly to the fertility of inventions among the Americans, a natural gift which has been in this case well applied to the farmers' necessities; and partly because the American farmer is more ready to try new methods and take advantage of new ideas than his brother in Europe. It must also be admitted that the American agricultural class, as a whole, is of a distinctly higher type than the European peasant, and is generally not only much better educated, but also more independent and advanced in his notions both of agriculture and of other things. There is also another cause for the wide use of machinery, and that is the nature of the land, which is fairly level over great stretches of country, so that machinery can easily be used thereon.

We can hardly do better than quote here one author's description of one of these gigantic grain farms, where machinery is so much used, and which indeed would be impossible to work without such machinery. "A grand sight," he remarks, "is a field of corn on a hot day. I remember being on a train in southern Illinois which, on account of obstructions on the line, had to lie in a siding for several hours. Nothing but corn was in sight over the great level plain. I wandered among the immense stalks, some at least fourteen feet high; a heavy dew had been falling during the night, and the morning sun was now well up in the heavens. Crack after crack resounded like pistol shots. It was the corn bursting its coverings. I imagined I could actually see it grow; I know that I felt it do so.

"Yet after all," he continues, "it is not maize, cotton, wheat, oats, barley or rye, which is ruler in the agricultural kingdom, but a more modest grass. Hay is the most valuable of all American crops ; the amount cut in 1880 exceeded thirty-six million tons grown on more than thirty million acres." But sixteen years later we find that this amount of hay is going far on the way to be doubled, for in 1896 (the latest figures available) the amount was fifty-nine million tons on some forty-three million acres.

Apart from hay, which is a particularly valuable crop, and for which the vast levels of much of the United States' surface are particularly well suited, we find that maize occupies the chief place, being the first among the grain crops. It is mostly consumed in the States themselves, especially for feeding hogs, but a great amount is also exported. The average maize production of the last few years has been well over forty million tons per annum, whereas wheat alone only came to eleven million tons, though in some years both crops are two or three million tons more than these figures. Oats, too, are a very heavy crop, generally being over seventeen million tons.

But in spite of the immense progress that has been made in the growth of crops, it would appear from recent figures that the cost of growing maize and wheat has exceeded the price obtained, and that there has therefore been lately a loss upon these two great grain crops. Mulhall makes out that in 1894 there was a loss of one hundred and eighty-three million dollars on maize; and it is evident that if this is the case, either still further improvements must be made or that less of these crops can be grown. There has certainly been a reduction in the prices of all agricultural produce during the last fifteen or twenty years of the century, and about 1885 to 1890 it was often asserted by those who studied the matter that the acreage under wheat at least must in time decrease. But this does not appear to have been the case, as the figures still show that the wheat area is no smaller, but rather larger, than it was.

It must be remembered that only a very small fraction of American grain is grown for export, and that wheat or maize which might sell at a loss in the open market is by no means necessarily a loss to the farmer who can use it on his own farm for feeding purposes. It is perhaps one of the most remarkable facts of American agriculture that, after all, in spite of the enormous quantities of grain that find their way over the sea, the total export of this commodity only represents one-twelfth of what has actually been raised in the country. So that, even if the export trade fell off, the American farmer would have an excellent market at home without troubling himself about the foreign buyer.

But if we turn to that typical product of the Southern States, cotton, we find that here we have a commodity of which by far the greater portion is grown for export exclusively. We have in an early chapter given some idea of the vast increase which the cotton export has attained during the century; and it is indeed marvellous to recall this immense growth from very small beginnings. Not much more than a hundred years ago, in 1784, a small quantity of cotton was imported into Liverpool, where (we are told) "it was at first considered an illegal transaction, as it was not supposed possible for it to have been the growth of any of the States of the Union; and when, about the same period, a duty was proposed in the United States Congress upon the import of foreign cotton, it was declared by one of the representatives from South Carolina, that the cultivation of cotton was in contemplation by the planters of South Carolina and Georgia, and that if good seed could be procured, it might succeed."

These modest words, "it might succeed," sounded a very few years later almost ludicrous. Already by the year 1830 the crop was not very far short of a million bales, and by the year 1880 it was over five million bales, valued at fifty-five million pounds sterling (English). Or, if we take it by weight, during the latter part of the century, we see again what a great advance this industry of cotton growing has made. The annual average from 1867 to 1871 was six hundred thousand tons; ten years later (1877–1881) it was one million and one hundred thousand tons; ten years later (1887–91) and it was just a million tons more than it had been twenty years previously, for it reached one million six hundred thousand. The figures down to 1896 show an average of one million eight hundred thousand tons annually.

The export statistics show a similar increase. From four hundred thousand tons in 1867–71, they rose to more than double that number in 1882–1886, being then eight hundred and eighty thousand, while the figures to 1896 show that one million two hundred thousand tons were being then exported every year. This leaves about six hundred thousand tons for home use, and this is used in the American factories. Thus we see that at the close of the century the cotton used in the American mills is just about equivalent to the amount that was sent abroad about the year 1870. In other words, America sends away about two-thirds of her total cotton crop, and retains one-third for her own manufactures. It is curious to notice that, though these cotton manufactures have increased very greatly in importance of late years, yet the proportion of cotton used in them—namely, one-third—is exactly the same as it was thirty years ago.

The value of the cotton crop is of some interest. It is now about two hundred and seventy-five million dollars annually, or fifty-five million pounds in English money—which is not much more than the value about 1870, and almost exactly the same as the value in the period 1871–76, although the crop is now so much larger. This is due to the fall in prices that has taken place in recent years, so that in every department of agriculture we find the figures of value a very unsafe guide; and it is better to go exclusively by the quantity of the various crops. What is perhaps rather surprising to the ordinary reader is the fact that now, at the close of the century, the value of the hay crop is nearly double that of cotton. The average value of hay in late years has been four hundred and seventy-eight million dollars; but then the crop is very much heavier than the cotton crop, being over five million tons as compared with rather less than one and a quarter million. The Pacific States, it may be noted, give what is the heaviest hay crop to the acre in any country, except Ireland.

CHAPTER LII.

PROGRESS OF AGRICULTURE IN THE UNITED STATES (*continued*) AND ALSO CANADA.

THE live stock of the great Republic is enormous. We might call America both the granary and the butcher's shop of the world. Yet the millions upon millions of horses, cattle, sheep, pigs and fowls now possessed by the American have nearly all become his property during the present century. The beginning of our period showed a comparatively small amount of live stock. In 1810 there were only three hundred thousand horses, six hundred thousand cattle, and as many sheep; and of other animals we have no exact record. But the next thirty years saw a wonderful increase, and the live stock certainly grew and multiplied with great rapidity. In the year 1840 they were no longer counted by thousands but by millions. There were then over four million horses and nearly fifteen million cattle, over nineteen million sheep and twenty-six million pigs.

Forty years later, and the increase still continued. In 1880 there were over ten million horses, nearly thirty-six million cattle, thirty-five million sheep, and forty-seven million pigs. In that year it could be said, as Mr. Carnegie puts it in his glowing volume—though his figures do not quite agree with other authorities—that " if the live stock on Uncle Sam's estate were ranged five abreast, each animal estimated to occupy a space five feet long, and then marched round the world, the head and tail of the procession would overlap." The same author remarks: "This was the host of 1880; that of 1885 would be ever so much greater, and still it grows day by day, and the end of its growth no man can foretell."

In this, however, he was wrong. The progress of pastoral industry in the United States, marvellous as it has been, seems in the closing years of the century to have been checked. That the check is only temporary we may well believe; but still the fact remains that the previous increase has not gone on. The figures of 1897 were large enough certainly, but they were a good deal less than those of 1890. The number of horses was about the same (sixteen millions) but the cattle were quite six million less (forty-six as against fifty-two million), and the sheep eight million less (only thirty-six as against forty-four million), while the pigs had suffered a loss of eleven million, (being only forty as compared with fifty-one million.) The ratio of cattle to population has thus fallen nearly twenty-three per cent since 1890, and is even below the level of twenty years ago. Reducing all live stock to a common unit, we may reckon that there is now an equivalent of some seventy-five million head of cattle in the Republic, which is much less than there was in 1890, and about the same as in 1886. But it is estimated that the pasture available in the United States could easily carry double this amount of stock, and Mulhall calculates that, if an increase once more begins, the number of live stock may easily rise to an equivalent of one hundred million of cattle in the early years of the twentieth century. In this equivalent six sheep or pigs count as one head of cattle. In the six years 1880 to 1886 the live stock showed the remarkable increase of thirty per cent, so that under favourable conditions, and with more inducements to breeders, the hundred million might very soon be reached.

A great factor in the past increase of live stock has been the immense export trade in both live and dead meat; for the modern inventions of science have made it possible for meat and live cattle to be transported across the ocean in a few days, by the aid of steam, while the various freezing processes have enabled buyers to keep the meat almost any length of time to suit the convenienceof the market. In view of the remarkable change in the conditions of the food market of the world thus brought about by the inventions of the nineteenth century, one cannot help feeling that a new era has dawned upon the earth. There cannot be, at least in any period of time which the readers of these pages are likely to behold, any such fear of death and scarcity which prevailed earlier in the century. At the time when Matthews wrote, the vast supplies of food from America, Canada, Australia and even India were not available. Agriculture had not progressed sufficiently in those countries to produce any large amount of grain or meat for export; and even if it had been produced it could not have been sent in any great quantities from one country to another.

The example of India and Russia is a case in point; for in the days before the railways and before the improvement in road-making, whole districts suffered from famine without being able to receive the relief which now they can often obtain from other places where supplies are more abundant. But now the difficulties of transport have been so far overcome that wheat, beef and mutton, and even still more perishable products like butter, cheese and fruit, can be placed upon the market in London as cheaply as, and even more cheaply than, English farmers and growers can produce them themselves. Or again, science and manufacturing progress has come to the aid of the farmer and fruit grower in a different way, by enabling him to place perishable commodities in tins, hermetically sealed up, so that they can keep for almost any length of time and be sent to all parts of the world.

Thus the quantities of tinned goods, especially fruit, fish and meat, sent out from Canada, Australia and the United States, are simply marvellous, and would greatly astonish, indeed dismay, the farmers of only a generation or two ago. The peaches and pine-apples of California, the salmon of Canadian rivers, the pork, mutton and beef of far-away American pastures or of distant Australian farms, are all brought easily to the tables even of the poorest in the British Isles. If the nineteenth century were remarkable for nothing else, it would be famous as the century which has thrown open the great storehouses of food to the hungry multitudes, and has relieved the crowded cities and countries of Europe from any fear of a deficient food supply. And this has been accomplished not only by the progress of agricultural science itself, but by the help given to agriculture by the steamship, the railway, the tin can and the freezing machine.

The foregoing remarks suggested by the developments of pastoral and agricultural industry in the United States are also equally applicable to the provinces of the Dominion of Canada. There, too, the nineteenth century has seen the bountiful stores of Nature opened up, and the care of the farmer or the grazier extending gradually over large tracts of hitherto uncultivated and unused land. The resources of the Canadian Dominion are vast, but they would never have been opened up as they have been in the latter part of the century had it not been for the railway and the steamship. It was these that brought the vast prairies of the West into touch with the busy ports of the East; it was these that brought to the virgin soil the hardy farmers and settlers who won from it the rich produce which it was capable of producing, and it was these which transferred that produce rapidly across the sea to the old country where there was an ever ready market. It is, therefore, not till after railways and steamers came into general use that we find Canadian agriculture beginning to make really rapid progress.

But from the middle of the century onwards great strides have been made. Grain growing, cattle raising, dairy farming, have all risen from the rank of merely local to that of international industries. In 1852, for instance, the grain crop was only forty-five million bushels, twenty years later (1871), this was nearly doubled, and eighty-four million bushels were grown. Only ten years later, and the total crop was one hundred and twenty-four million bushels, while in 1884, this was still further increased to one hundred and seventy-two million bushels. Of these, wheat has been more than doubled in quantity since the year 1871. Then the wheat crop was only seventeen million bushels, but in 1884 it was forty-two millions, while in the same time maize rose from four to fourteen million. At the close of the century the wheat crop of Canada averages no less than sixty million bushels, while the total grain crop is about two hundred and ten million.

In the same way the amount of live stock has increased in like proportion. Early in the century (1834) there were only eight or nine hundred thousand cattle and about a million and a quarter sheep. But already in 1861 there were over two and a quarter million of the former, and over two and a half million of the latter. The highest number of sheep was reached about 1871, when they were over three and a quarter million, but during the next twenty years or so the number declined. But cattle went on increasing. In 1871 there were nearly two and three-quarter million; in 1881 quite three and a half million. The number of pigs has remained fairly stationary at about one and a quarter million since 1861; but the rearing of horses has become a very profitable industry, the number rising from less than two hundred thousand in 1834 to over a million in 1881.

In more recent years, the pastoral industries have increased even more than tillage, and grazing farms have multiplied. There are now about four million cattle, three and a half million sheep, and one million four hundred thousand horses; and the number of pigs has also risen by about half a million. Dairy farms have also become more numerous, and the export of dairy produce is now equal in value to that of grain, both (in 1894) being worth about four million pounds sterling in English money, while the value of the meat exported was about two million. All this shows a great improvement and progress in agriculture, but nothing is more striking than that in the ten years 1881 to 1891 the total productive area of Canada—both for pasture and tillage—was enlarged no less than seventy per cent, the acreage rising from twenty-one and a half millions to over thirty-five millions.

The production of grain, meat, cheese and eggs is now something enormous, and much of these find their way to Great Britain; but far more is now consumed by the Canadians themselves. Thus, twelve hundred thousand tons of wheat are annually produced, and a million of them consumed in the Dominion, leaving two hundred thousand tons for export. Only thirty thousand tons of beef are exported, which is just one-seventh of the total produce. Ten thousand tons of mutton and twenty thousand of pork go away, but these are both less than a third of what is retained. The shipments of eggs are about ninety millions, but this is much less than they used to be, as in 1886 there were one hundred and fifty millions exported. Of butter and cheese eighty thousand tons are exported (1897), which is double the export of 1886, but the production is some hundred and thirty thousand tons. The fisheries also bring in about two hundred thousand tons of fish every year.

The total production of all grain, potatoes, meat, fish, butter and cheese comes to almost two tons for every inhabitant, so that the Canadians ought to be a well-fed and healthy people. It is pleasing to notice that this ratio is five per cent higher than that of the United States in proportion to population. On the other hand, in some items, production is slightly less than in the neighbouring Republic, that of grain being about forty-one bushels per head as compared with the Republic's forty-nine. Yet in Upper Canada the crops are heavier than in the States. There is, however, a rather larger acreage per inhabitant than in the States, there being in Canada four acres per inhabitant as compared with three and a half across the border.

On the whole Canada is more agricultural than her great neighbour, for the proportion of her farming population to the general total is much higher, and the value of farming products is eleven and a half pounds in English money as compared with not quite eleven pounds in the States. The farming capital is also just twenty shillings a head more in Canada. The chief agricultural portion of Canada is Ontario, which contains about forty-eight per cent of the cattle of the Dominion, and produces sixty-five per cent of the grain. Ontario's cattle are worth about twenty-one millions sterling, nearly twice the value of those of Quebec, and more than four times those of the West.

The record of agriculture in Canada would not be complete without a slight reference to the timber trade, which is very valuable, although it is hardly to be classed under the head of ordinary agriculture. Much is exported, yet (according to Mulhall) the exported timber is not of much more value than that used for home consumption, that retained being worth four million pounds sterling, and that exported only two hundred thousand pounds more than this figure. The annual average production is seventy million logs, equal to five hundred and sixty million cubic feet, and one hundred and ninety thousand masts. This production is, however, less than that of Sweden and Norway, though Canada has a slightly larger forest area.

We have now surveyed the condition of agriculture in all the chief agricultural nations of the world during the nineteenth century, and we may fairly say that the record is one of very considerable progress. There is certainly no doubt that all civilised nations are better off for agricultural appliances than they used to be, and that in consequence their agricultural produce is grown in large quantities. Thus, wheat is produced continually in greater quantity than before, for although in some countries the acreage under this grain has declined, yet on the whole the total acreage has increased. In the same way, too, the pasture land has increased in size, with the consequence that the number and quality of live stock have improved. In all directions, therefore, we see the total product of agriculture, both living and not, has grown greater during the century; and there can be little doubt that there is room for much further progress. After all, agriculture is in many countries still in quite an elementary stage; and if the knowledge of agricultural science were more widely spread, the result would be an immense increase in the amount of food available for civilised humanity.

But, as the total product has increased, so too have the facilities for bringing it from the producer to the consumer. Every sea is studded with ships bearing precious freights of food from one country to another; and so long as peace is maintained these "argosies of golden grain" will bring relief to many millions who but for the bountiful supplies from countries not their own would perish of starvation, or die more slowly from a gradual lack of adequate food. This very fact of increased production and of greater facilities for transport has caused a certain amount of depression in agriculture towards the close of the century; but this, though troublesome and in many cases serious for the farmers, cannot but be in the long run a benefit to the community at large, and prices must in the end right themselves.

The decline in agricultural values which has continued since 1878 or 1880 only means in reality an over-abundant supply of food, and such a decline cannot go beyond a certain point. We may sympathise with the farmers of those countries which have felt the fall in prices most severely, but it must be remembered that prices cannot be a fixed quantity and that they must depend upon the general laws of supply and demand. What the farmers really need most of all is such a knowledge of the state of the world's markets as will enable them to form an intelligent anticipation of what course they would find it most profitable to adopt. A great feature in the acquirement of such knowledge is general information and quickness of perception, which are often gained by a more extended education than usually falls to the lot of the agricultural classes. Yet if farmers, as a class, looked at their occupation in the same business-like fashion as do merchants and manufacturers they would no doubt reap better results than they now do.

In conclusion, we may note briefly how the chief nations of the world stand in regard to the interests they have at stake in agriculture. Russia undoubtedly stands first, with no less than seventy per cent of its population engaged in agriculture (including pastoral) pursuits; and equally certainly Great Britain stands last, with only ten per cent of its people thus employed. Austria comes next to Russia, with sixty-two per cent, and Italy follows close with fifty-two. Ireland, Canada and France may be classed almost together, with forty-five, forty-three and forty-two per cent respectively. Germany comes not far from these with thirty-nine per cent of its population occupied on the land, while the United States (with thirty-five per cent) is a little below Germany. It is somewhat surprising to find that only twenty-five per cent of the inhabitants of Australia are agriculturists; but this is accounted for by the large number who devote their energies to commerce and mining. Belgium also has only twenty-five per cent, and Holland twenty-two per cent. It would probably be better for both Australia and England if a larger number of their people devoted themselves to agricultural employments, for although commerce, manufactures and mining offer perhaps a greater average remuneration for the skill and capital expended, yet a nation that has not as its backbone a fairly large class of agricultural workers might easily find itself some day at a disadvantage when compared with other nations where occupations are more evenly balanced. Possibly the twentieth century may see some alteration in this respect.

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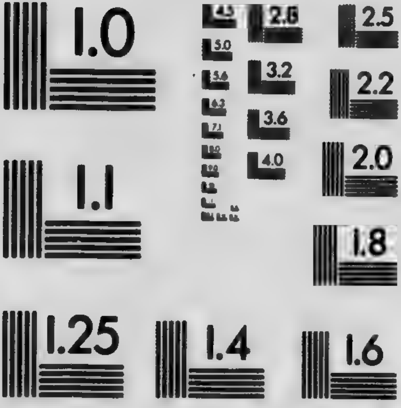

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CHAPTER LIII.

PROGRESS OF MANUFACTURING INDUSTRY—GENERAL SURVEY—THE IRON TRADE.

We have already seen, in the various sections devoted to single countries before the middle of the century, how manufacturing industries had made a beginning of progress in most European countries and in the United States. The great expansion of the manufacturing industry which has been so marked a feature of the nineteenth century has only occurred since the first quarter or half of that period. For many years most countries were content to take their manufactured goods very largely from Great Britain, and thus the island kingdom secured a very great pre-eminence in the world's markets. That pre-eminence was, after all, only due to it, for it was the inventive genius of Englishmen which created the new machines and processes by which it has become possible to turn out cloth, hardware, and in fact everything required for ordinary human use, with a celerity and accuracy undreamed of by our not very remote forefathers. Thus England gained a very good start over other nations and has kept the lead she thus gained for a considerable period.

But the time appears to be now coming when the knowledge and practice of manufactures is being spread far and wide in every country, and when therefore it will no longer be possible for any one nation to retain the monopoly which has so long been in English hands. One of the most striking features of manufacturing progress during the century has been the manner in which Germany and the United States have come forward and developed their youthful industries, while in the Far East, Japan also has been imitating the methods of Western nations with wonderfully successful results.

In any account of the progress of manufactures, however, we turn naturally to England first. "Small but mighty," she has taught nearly all the civilised world how to make machinery and how to use it. Some idea of the results which this machinery has produced in the way of saving labour and therefore increasing production may be seen from the single fact that the spinning jenny enabled one operative in the year 1815—and results have been improved since then—to produce as much as two hundred workers could do only some few years before. Or again, to take a more modern example from the other great manufacturing country of the world, the United States, one man now can by the aid of machinery turn out three hundred pairs of boots a day; not long ago, if he had made one pair by hand every working day, this would have meant a year's work instead of one day's. One factory near Boston, it is said, makes as many boots as do thirty thousand bootmakers by hand in Paris. The States, as we shall see, are pre-eminent in labour-saving appliances. In the year 1888 they produced six hundred thousand sewing machines which could do the work of more than seven million women. Or, coming back to England, we find that one girl in a Lancashire mill can turn out thirty-five yards of printed calico daily, so that one year of her work at this rate would suffice to clothe no less than twelve hundred persons in the East.

The nineteenth century, in fact, has been emphatically a century of progress in all arts relating to manufacture. We have already dealt with the changes introduced by the Industrial Revolution, and that revolution has been going on all through the century. The twentieth century will probably see that revolution carried further still. The nineteenth century has been the age of steam as a motive power, both for locomotion and machinery; but the twentieth will be the age of electricity. When, too, the forces of nature now wasted, such as the largest rivers and the tides, are made to yield up some of the immense stores of energy which their rise and fall and ebb and flow create, and when this immense force is converted into electric power, there will indeed be no limit to the work that may be accomplished to save the labour of toiling humanity. We stand even yet, as it were, only upon the threshold of science, and marvellous as has been the progress of manufacturing industry in the immediate past, there is no reason why it should not be even more marvellous in the immediate future.

Yet in some respects progress seems slow. Electric light was first used in the year 1863, not so very long after the middle of the century, but it is only now beginning to be widely employed in England, and in most places is not even yet available for domestic use. Still we must not complain. It is in machinery that the greatest triumphs have been gained so far. In our textile factories one operative can now work ninety spindles as compared with twenty-nine in the year 1840, so that his output is practically trebled. Few things, indeed, are more remarkable than this increased efficiency of labour, and the power now possessed of doing far more work than was possible fifty or a hundred years ago. In every department of industry we find this to be the case. Thus, not more than fifty or sixty years ago, it took three men to raise a ton of coal daily, but now this amount is the work of only one miner.

In the same way the cost of production has been much lessened in many industries, and this is practically the same as an increase in output, for it enables more work to be done for the same cost. Thus about 1840 it took three and a half tons of coal to produce one ton of pig iron, whereas now that quantity of iron is produced with the expenditure of only two tons of coal. In locomotion, too, the same fact is discovered. Modern steamboats, for instance, only consume proportionately about one-fourth of the fuel they used in the middle of the century, and it must be remembered that a lessened cost of locomotion and transport means in the long run lesser cost of production, for practically transport is a part of production, since no commodity is of any use for the market unless it can readily be brought to the consumer.

We have seen already from these facts, and from the inventions referred to in an earlier chapter, how greatly the production of all textile goods has been increased; but in iron and steel goods no invention was so remarkable as that of Sir Henry Bessemer. His invention was an improvement upon that of Neilson of Glasgow in 1830 by which the hot-air blast was introduced into furnaces. In Bessemer's process, a blast of air at high pressure is forced through pig-iron in a molten state, thereby driving out the carbon contained therein, and converting the iron into a cheap and useful kind of steel. By this means the production of steel rails, boiler plates, rollers, plates for shipbuilding and of all such materials, was very materially increased, as the cost became so much lower than formerly. Bessemer's patent was taken out in 1856, and in the course of a few years the annual production of steel was raised from fifty thousand tons to thirty times that amount, while the cost of steel fell from about forty pounds per ton (in 1860) to between four and five pounds in 1895.

Another inventor who did much for the steel industry was Sir William Siemens, who only died in 1883. He produced in 1856 what is known as the regenerative furnace, by which a great saving of heat is effected in various industrial processes. In fact, the Siemens-Martin method of making steel rivals that of Bessemer. Siemens also did a great deal of work in connection with electric lighting and telegraphy, and electricity for the purpose of locomotion. Still further economies in iron production have been made by the invention of various machines of a powerful character capable of dealing with this metal almost as machines in textile factories do with cloth. Rolling mills, for instance, with engines working up to ten thousand horse-power take ingots of hot steel weighing over a ton each, and draw them out into long bars, as much as one hundred and thirty feet in length, from a mass only six feet long. Circular saws cut these bars or rails to any length that may be required. Or boiler plates and plates of varying thickness for the armour of the great modern battle-ships are flattened out, just as may be required, by the same kind of process from the great ingots of iron and steel.

While mentioning battle-ships, we may also add that since 1860 iron has been more widely used, instead of and in addition to wood, for the construction of all kinds of ships. During the seven years ending in 1884 no less than four million tons of iron had thus been used in the construction of British ships, not for the navy but only for merchant vessels.

Then again we must not forget the great invention of James Nasmyth, the originator of the steam hammer, which can be used either to crack a nut or smash a block of iron. This invention has a rather curious history. James Nasmyth had the idea of such a hammer in his mind for years before he actually patented it, and had made a sketch of it in his "scheme book." In 1841, he saw in operation at the celebrated iron works at Creusot in France the very hammer which he had pictured; and found that it had been constructed from a copy of his own sketch made by two French engineers. He hastened now to protect his invention by a patent taken out in June, 1842, and early next year he had a steam hammer—the first in England—at work in his foundry near Manchester.

Perhaps, of all these inventions, that which was most valuable was Bessemer's, for the saving in cost which it made to English industry was enormous. This saving was estimated at nine million sterling per annum in 1885, and at fifteen millions sterling per annum in 1895, while Mulhall the statistican declares that it is within the mark to say that from 1855 to 1897, the national industry benefited to the amount of two hundred and sixty million pounds sterling by this one invention. The record of progress in the iron trade during the nineteenth century is indeed marvellous. Early in the century (1810), the annual production of pig iron in Great Britain was only about a quarter of a million tons.

In the year 1830, it was less than three-quarters of a million tons. In 1840 it was over a million, and fifty years later it was over eight million tons, and sometimes it reaches nine millions—that is, quite thirty times the earlier figure. Of this immense total the English use a great deal at home; in fact more than five million tons, exporting rather less than two million tons of manufactured iron and eight or nine hundred tons of pig iron.

A very good way of showing the proportionate production of iron in different countries is to notice the amount produced as compared with the total population. Taking this basis, we find that England produces over four hundred pounds (weight) per inhabitant, as compared with about half that quantity in Germany and about three-quarters of that quantity in the United States. Next to England, Belgium produces the greatest quantity per head, the Belgian total being three hundred and ten pounds per person. France only produces one hundred and twelve, and Italy comes out very low with only twenty-two pounds per head. The cost of producing iron or steel also seems to be much lower in England than in any other country, at present, this being no doubt due to the excellence of British processes and inventions. But there is no doubt that the United States, Germany and Belgium are running England very close in this particular branch of trade, and may in the future prove even still more formidable rivals.

Still the British export trade in iron and steel has progressed vastly during this century, and this is a very healthy sign. In the period 1855 to 1859, just under seven million tons of iron and steel were exported to foreign countries, but in 1880–89, over thirty-eight million tons were exported, an average of over three million tons a year in the later as compared with less than two millions in the earlier. Some of this export is in the shape of machinery and forms a valuable item.

In 1896 the value of the various exports of iron and steel was well over fifty millions sterling, more than twenty-four millions of this being more or less unfinished material, sixteen millions machinery, and over eleven millions cutlery, weapons and similar articles. Yet the value of articles retained for home use was sixty-seven and a half millions sterling. The value of the exp[illegible] slightly the following year, and the tende[illegible] been of late years to a decline in value, but [illegible] only natural when we consider the immense quantity placed upon the markets, and does not imply that the trade is really falling off, though it may fluctuate from year to year.

CHAPTER LIV.

PROGRESS OF MANUFACTURES IN GREAT BRITAIN.

Of course this vast advance in the iron industry has caused a similar advance in mining. Coal and iron are inseparably linked in the modern industrial system, and we find that the mining of both has grown enormously with the century. In the year 1800 there were only some ten million tons of coal raised in the United Kingdom, and only half a million tons of iron ore, with about fifty thousand tons each of copper and lead, and five thousand of tin. In 1850, half-way through the century, there were forty-nine million tons of coal and five and a half million of iron. In 1880 we find coal has increased to no less than 147 million tons, iron to eighteen million, copper and lead to one hundred and ten thousand tons each, and tin to fifteen thousand, Later (1896), we find a further increase to 195 million tons of coal and eight and a half million of iron, so that during the century the output of coal has been multiplied nearly nineteen times and the total output of all minerals about twenty-four times. Even since 1870 the weight of minerals raised has been almost doubled.

This immense output is due to greater efficiency of labour and improved appliances, and so great is the improvement, that in 1890 one man could raise as much coal or ore as four men could do in 1800. It is very pleasing to record that the dangers of mining have grown far less with this increased development, instead, as we might have feared, of growing greater. In the middle of the century the number of deaths of miners averaged forty-three per ten thousand men yearly, but now the death rate is only fifteen per ten thousand. This means for the total mining population of the Kingdom a saving of quite two thousand lives every year, as there are now between eight and nine hundred thousand persons employed in the mining industries.

At the present rate of consumption in Great Britain the coal supplies, therefore, are estimated to last another five hundred years—quite long enough for any purposes of the present reader; and long before the coal measures are exhausted science will have discovered some other fuel or some other means of producing the heat and force necessary for manufacturing and domestic purposes. No doubt electricity will gradually take the place of coal in many ways, and certainly when coal has been superseded by some other source of energy it is to be hoped that the smoke and dirt which disfigure so many of our modern manufacturing towns, and the dismal and gloomy atmosphere which surrounds them will be things of the past. It is one of the most unfortunate features of modern industry that its progress in the nineteenth century has been marked by the degradation of much fair scenery and a continual accompaniment of smoke and dirt.

But we almost forget the disagreeable features of industry when we survey the magnificent progress made during the century in the various trades. The textile trades now form one of the most important items of the nation's wealth; and this branch of industry alone has nearly quadrupled even during the sixty years of Queen Victoria's reign. To take only this period, we find that the consumption of fibre in British mills has grown from a total of eight hundred and fifty-four million pounds (weight) in 1840 to over three thousand million in 1896, cotton and wool of course accounting for the greater part of this increase. Or, to take another view, and note the proportion of raw material consumed per head of the population, we find that it has more than doubled, being now some seventy-seven pounds (weight) per head as compared with thirty-three pounds in 1840. Well may the statistician say that there has never been such a development of textile industry in all human records, and certainly nothing has been witnessed before to compare with the gigantic scale on which textile fabrics are now woven in the mills of Lancashire and other parts of England. In fact, British mills now consume one-fourth of all the fibre that the world produces.

The most amazing fact is that this progress was not confined to the earlier part of the century, when, of course, British inventors gave their country's industries a very favourable start, but it has been going on rapidly in quite recent years. Even since 1870 the cotton industries have increased quite forty per cent, and the woollen one hundred and five per cent, and this in spite of severe foreign competition. How long this increase will continue it is, of course, impossible to say, but, judging from the advances now made on the Continent of Europe, in the United States, and even in India, English manufacturers must be prepared to lose some portion of their export trade, unless perhaps the foreign markets take a still larger supply than they have hitherto done.

We may devote a few words to the cotton trade, as being the most important of our textiles. The annual output of cotton cloth in Great Britain is almost incredible. It is generally now well over four million miles a year, and has been doubled in quantity since the middle of the century. Since the beginning of the century it has been multiplied between thirty and forty times. Even now the cotton manufactures of Great Britain average more than those of all other European countries put together. They form one of the most valuable features of English industry, being worth (it is said) more than three hundred thousand pounds a day. The mills turn out daily fourteen thousand miles of cloth, of which about four thousand miles are required for home use, and ten thousand are exported to other countries.

With this vast expansion of output, cotton goods have naturally become very cheap, so that, whereas a mile of cloth was worth seventy pounds sterling at the beginning of the century, it is now worth less than twenty. Here again, as in so many other cases, the price has fallen owing to the economy in production effected by improved machinery and better methods of working. It is also worth noting that this decrease in price has not meant less wages for the workpeople, but on the contrary (as we have seen in a former chapter), not only wages, but also the conditions under which mill hands work, are far better now than they were earlier in the century.

The woollen textile trade has also made great progress. Indeed, between the years 1800 and 1850, the quantity of wool used in British factories was just doubled, and in the sixty years since 1840 it has been multiplied between four and five times. But a great change has come over the sources from which the raw material was procured. Fifty or sixty years ago the bulk of the raw wool used was grown in the British Isles, but since then the pastures of Australia (see the chapter on agriculture) have borne so many sheep that now four-fifths of the supply of the British mills comes from that far-off colony, or from other remote parts of the globe. Hence there has been a great fall in the price of raw wool, owing to the cheapness with which it could be grown in Australia; and, apart from the decline in price of the raw material, the manufactured article has also become cheaper because of the improvements made in the machinery used in the various processes of manufacture. In 1840, before Australian competition was so keenly felt, the price of raw wool was on an average twenty-eight pence per pound; whereas fifty-five years later it was only eight pence halfpenny a pound, a fall which shows very clearly how enormously the supply had increased during that time. At the same time three operatives in a woollen mill can, with improved methods and machinery, produce as much cloth as four could then, so here again the saving of expense and labour has helped to reduce the price.

But in spite of the great decline in the price both of raw wool and woollen cloth, the industry remains of very great value to England, being now estimated as worth about sixty-two millions sterling annually, and pays wages to English factory hands at the rate of fifty thousand pounds sterling every day. It is noticeable, however, that though English exports of woollen cloth are very large, there is a very fair quantity of cloth of foreign manufacture also imported into the British Isles, as the French and Germans have learnt the secrets of dyeing and finishing very thoroughly and compete severely with the native product.

Of other textile trades, the linen trade does not show much progress, the consumption of fibre being much the same as it was in the middle of the century, and the consumption of linen cloth per inhabitant is even less than it was in 1840, being only five yards annually now as against eight yards then. This is due mainly to the improvements made in cotton and woollen cloths, and to mixtures of wool and cotton, which now often take the place of linen. But while linen manufactures have declined, quite a new manufacture has sprung up since the half century, viz.: that of jute. This fibre is closely allied to hemp, and taking jute and hemp together we find that the total consumption for manufacturing purposes is now ten times as much as it was in 1840. Jute comes mainly from India, and now more than six hundred thousand tons of it are annually exported from that country; but in 1828 India only produced the minute quantity of eighteen tons. In the year 1835 there were six hundred tons of Indian jute exported, so that, comparing this with present figures, we find that the export has increased just about a thousand times. So, too, in Great Britain the value of the jute manufacture was in 1850 only nine hundred thousand pounds sterling; in 1889 it was over nine million sterling, or about ten times the former value. At the present time the annual value of jute manufactures has increased to fifteen million sterling.

That British textile manufactures are in a very flourishing condition is evident when we look at the figures of progress since the half century. Taking value only—though that is somewhat deceptive, since values have declined so heavily in recent years, and therefore do not represent the progress of trade fully—we find that the difference in value between the raw materials and the manufactured products has, for the last fifty years, been worth over one hundred million pounds sterling annually. At the present time the value is between one hundred and twenty and one hundred and thirty millions sterling. Cotton and woollen cloth account for most of this, but the flax, silk, jute and hemp industries all contribute their share. Cotton represents forty-seven per cent, woollen goods twenty-nine, linen nine, silk seven and jute eight per cent of the total industry of the second half of the century. If we look at the value of the total output of all the manufactures of England together, we find that they amounted in 1896 to eight hundred and seventy-six millions sterling, a total not approached by any other European country, though far below that of the United States.

Still the present annual value of British manufactures is thus more than eight times larger at the end of the century than at the beginning of it, for in the period 1803 to 1810 the value of the gross annual output of British factories was estimated at one hundred and five millions sterling. But it is said that the earlier estimates were rather too low, and from Mulhall's estimate the increase would appear to have been only four times the earlier output. Yet, as before remarked, values form a deceptive guide; and the volume of British trade has evidently increased enormously during the century.

CHAPTER LV.

PROGRESS OF MANUFACTURES IN FRANCE AND GERMANY.

Before passing to the manufactures of the United States, now the greatest manufacturing country in the world, we must just glance at the chief industrial nations of Europe. Here we find France and Germany in the front rank, though, if we take the proportion of the value of manufacturing industries as compared with the number of the population, the little country of Belgium must be placed only second to England and before its two greater neighbours, while Switzerland comes very closely after them. According to this way of regarding manufactures, it will be seen that France and Germany are by no means such exclusively manufacturing countries as Britain and Belgium, since they contain also a large agricultural population, and agriculture is with them a very important national industry.

No European country has made such progress in manufactures during this century as Germany. It is not very easy to obtain reliable facts and figures for the earlier part of the century, but in 1805 the manufactures of Prussia were estimated to have been only worth between seven and eight million sterling (in English money) annually, though this estimate is rather too low. A later estimate, for the year 1843, placed the manufactures of Prussia at thirty-six millions sterling, but this is also rather beneath the true total. However, it is very evident, that whatever the exact figures may have been, the manufactures of the German states for the first part of the century were of no very great magnitude, and, indeed, almost insignificant when compared with the rapid developments in England. But the census of the year 1861 revealed the fact that there were over a million workpeople engaged in this kind of industry, so that it is clear that manufactures must have advanced to a considerable extent. This was for Prussia, and the census of 1869 for all Germany showed that there were over five million people thus employed. Yet a little more than ten years later (1880) we find the manufacturing population of all Germany returned at over sixteen million.

We see, therefore, that it was after 1870 that the period of most rapid progress began; and such indeed was the case. Between 1860 and 1887 the value of the textile manufactures was more than doubled, and it has been very rapidly increasing since. It is now estimated at over a hundred million pounds sterling in English money, as compared with only some nine millions at the beginning of the century, so that the increase has been more than tenfold. The iron and hardware manufactures also have made wonderful progress, and have now an annual output worth over a hundred and five million sterling.

The Germans have made special progress, as is well known, in the manufacture of materials of war, while the machinery used in the peaceful factories has also attained wide celebrity. The total value of all German manufactures together is not far short of seven hundred millions sterling per annum, which comes unpleasantly near to the British total. In fact, in many ways, the German is felt to be one of the British manufacturer's keenest competitors, and the last twenty years or so have placed him in a position of a serious rival to the Englishman not only in foreign markets but in the English home markets as well. It is only fair to say that earlier in the century the German manufacturer had to suffer from English rivalry a great deal more than the Englishman even now has to suffer from that of the Germans; but that fact will probably not be of much comfort to the English manufacturer of the present day.

It will not be out of place, therefore, to inquire briefly what have been the main causes of this great advance of German manufacturing industry, and in doing so we are struck at once with three main facts —the impetus given by national unity; the great adaptability of the German manufacturer; and the benefits derived from systematic education in commercial and technical subjects. As to the first of these, it is almost needless to point out the advantages gained by the unification of Germany, since 1871, into one great nation instead of the miscellaneous collection of large and small states to which we have referred in an earlier chapter. It is not only that this unity has produced greater simplification in the commercial and financial system, but also it has given the nation greater spirit, and more enterprise. A German manufacturer feels that he is supported not by the doubtful strength of a petty state but by the resources of a great and magnificent empire. His mental horizon is widened and his outlook is increased, and he is able to take a far more active part than formerly in the commerce not merely of one little state but of the whole circle of civilised nations.

Then, secondly, we notice that the German manufacturer is an eminently adaptable person. He suits his wares to his customers, not only in the home markets, but in the foreign markets also. He takes the trouble to find out exactly what the customer wants, and he lets very few difficulties stand in his way in getting it made for him. One single example of this may be taken from that mentioned by the observant author of a book (*Imperial Germany*) which some years ago made a considerable impression upon the more thoughtful of the English and American publics. In days gone by, he points out, the only beer to be found in India and the colonies was that of the great British breweries. At the close of the nineteenth century, German lager beer is found not only all over India and the colonies, but regularly in London and all the large English towns, especially in the summer. A large percentage of the English export trade in beer has been appropriated, or we might say annexed, by the German breweries, not because English beer is any worse than it used to be, but because our brewers have not been quick enough in adapting themselves to the conditions under which their customers live. They have gone on making the same strong ales as before, heedless of the fact that these are not so suitable for those in hot climates as the lighter varieties, while the German, with his light and palatable beverage, has secured the custom of the British drinker. It is not that the Germans have always brewed beer like this, suitable for export. They have largely learned to do so in the last twenty or thirty years. They have carefully observed what is needed by a large class of those who drink beer, and have adapted themselves to the tastes of their customers. What is more, they have given careful and scientific attention to the various chemical processes by which beer can be improved, and have not hesitated to spend a large amount of money on scientific investigations.

It is the same in almost every industry which the Germans have taken up. In the textile trades the same adaptability, the same science, the same technical knowledge, have borne most satisfactory fruit. Here, too, as elsewhere in German industry, the value of sound education has been proved over and over again. Not only has the German manufacturer a good technical education, but also a good general education, and in the long run good education of a general character invariably tells. It may be hard to say exactly how and where general education tells, as distinct from technical and special education, but it undoubtedly does tell, and in Germany has told. In the textile trades, too, the Germans use the latest and best machinery, and are acquainted with all the newest processes.

There is another point also in the way in which they meet their customers' tastes. English manufacturers often produce an excellent article, well made and well finished, but too expensive for some who would like the same kind of thing in a cheaper form. It is for the buyers of cheap goods that the German caters. He knows too how to display what he makes in an effective manner. The following example will at once illustrate what is meant: "A case of German scissors, cheap and of the poorest material, nicely placed upon a pretty card, and hung up in a shop window, will attract attention, whilst the better and higher-priced English article done up in a brown paper parcel, and put away on a shelf as not being an article for exhibition in the window, will lie for years unsold." If a buyer really wants cheap scissors, it seems better business to give him what he wants, even though it may not be the best, than to supply only goods of a certain quality and none other.

But even in quality the Germans are becoming very serious rivals, and their powers of adaptability seem to enable them, when they wish, to turn out goods equal to any of those from England or America. It must not be imagined that all German goods are cheap and inferior. Many are of very excellent quality. It is often said that Germans have not much talent for invention, and it may be to a certain extent true; but they have the faculty of making use of the inventions of others, and readily take up any new ideas which may be presented to them. There can be no doubt that, with all the advantages which Germans possess, and with the great energy which they have shown (especially since 1870), their manufacturers will continue to make this empire one of the foremost in the ranks of the industrial nations.

Turning to Germany's neighbour, France, we find here again, as in all the leading countries of civilisation, a remarkable increase of manufactures during the century. In the year 1835 the total value of French manufactures was estimated at two hundred and sixty-four millions sterling in English money, whereas in 1888 they were valued at four hundred and eighty-five millions, or nearly double the previous amount. This, however, is not so great an increase as in Germany, and, according to the various estimates given by Mulhall, there does not seem to have been a very striking increase between 1868 and 1888. The total value at the present time is estimated at not far short of six hundred million sterling in English money, as compared with rather less than seven hundred million in Germany, and eight hundred and seventy-six million in England.

If these estimates are correct, there would appear to have been a greater increase in the last quarter of the century than in the third quarter. There is no doubt that in many branches of manufacture the French have made a good deal of progress, and this is certainly the case in textile goods, for the value of these has apparently been multiplied fivefold during the century, being about the year 1810 some thirty-two millions sterling while now it is about one hundred and fifteen millions. But there is a considerable difference in the figures of the iron and hardware manufactures between the productions of France and those of England and Germany. In 1896 those of France were only about forty-seven millions sterling as compared with one hundred and forty-two million sterling in England and one hundred and five million in Germany. Thus, in hardware, France seems considerably inferior to Germany, though in the textile fabrics she has a slight superiority in value. That this superiority is due to excellence of quality rather than to the volume of French manufactures, is seen very clearly when we note that though Germany uses up about ten thousand more tons of textile fibre than France does, the French fabrics resulting from the manipulation of this raw material have a greater value than the German have. These figures show pretty clearly that German manufacturers produce more of the cheaper kinds of cloth, while the French continue to sustain their reputation for excellence in dyeing and finishing, and in design.

There is no doubt that, in manufactures as in everything else, national characteristics must affect national industry; and the artistic instincts of the

French are thus visible in the products of their factories and workshops. The Germans, on the other hand, can hardly be called a naturally artistic people, perhaps even less so than the English; but on the other hand, both Germans and English excel the French in the production of iron and steel goods, and hardware—articles in which the sturdy strength of both nations can find adequate expression.

CHAPTER LVI.

PROGRESS OF MANUFACTURES IN OTHER EUROPEAN COUNTRIES.

THAT little country on the north-eastern border of France, the active state of Belgium, has, as we have already noted, made great progress in manufactures, and in proportion to its size is one of the first manufacturing countries of Europe. From the very first the Belgians took kindly to the new machinery and the use of steam, which signalised the Industrial Revolution. In the fifty years from 1830 to 1880 the power used in her mines and factories in the shape of steam was multiplied tenfold, being reckoned equivalent to twenty thousand horse-power in 1830 and over two hundred thousand horse-power in 1880. Since the latter date it has, of course, still further increased. Both in textiles and in iron and steel, Belgium has made very great progress. In the forty years, 1840 to 1880, her textile manufactures increased threefold in value, from six to seventeen million sterling, and though their value at the present time is about the same, it represents an increased volume of trade. The value of hardware goods made now is rather more than that of the textiles, being put at nineteen million pounds sterling, this being an increase of three millions on the value for 1888.

Belgium is indeed very well situated for the hardware trade, and the great Franco-Belgian coalfield has aided much in her prosperity. Mining has made great progress during the century, having increased fifty per cent since the year 1870, and the output of coal is now some twenty million tons . year. Coal is by far the most important of all Belgian mining industries, and has an annual output nearly ten times as large as all other kinds of mining put together. In fact, in many respects Belgium very closely resembles England, and for her size is a very advanced manufacturing country.

Of the remaining countries of Europe, Russia and Austria may be noticed because of their great size, but they are not manufacturing nations in the same sense as Belgium, France, Germany and England. The vast empire of Russia has a manufacturing output only a little more than half the value of that of Germany, and Austria has less still. At the same time, compared solely with itself, Russia has made a considerable advance during the last hundred years, or, speaking more strictly, during the last thirty or forty. The number of factories was increasing steadily up to about the middle of the century, but since then the number has grown much faster, and the number of factory operatives since about 1850 has quite doubled and is nearly trebled. In the year 1828 there were only one hundred engines worked by steam in the Russian Empire, but now they are, of course, counted by thousands. Even in the year 1882 an official statement showed that the output of the mills had more than doubled since 1864, and, unless the figures given by Mulhall are wrong, the output of textiles must have been more than doubled again since 1880, for the value now assigned to them is eighty-one million sterling as against forty-two millions. Considering that in the year 1820 the Russian textile manufactures were only valued at five millions sterling, it is evident that manufacturing industries in this empire have been very considerably improved since then.

Austria has a greater number of manufactures in proportion to its population than Russia, though the total output is less than in the larger empire. The manufactures of the dual monarchy increased with very great rapidity during the first quarter or third of the century, but not so quickly in proportion afterwards. In 1805 the textile factories alone employed one hundred and seventy thousand hands, though we cannot say accurately how many were employed in all the manufacturing industries put together. But they could not have been a very large total. Yet in 1834 the number of manufacturing operatives, of all kinds, was put at over two and a quarter millions. Either the earlier figures are too small or later ones too large, for there is said to have been a considerable growth of manufacturing activity after the date of these statistics. Certainly there must have been much progress made, for we have figures as to the numbers of hand looms known to be working in the quarter of a century from 1850 to the year 1875; and we find that these sank from one hundred thousand looms to only fifty-five thousand in that period, while the number of steam looms was increased twentyfold from eleven hundred to twenty-three thousand. Yet again, some nine or ten years later, there were over sixty-four thousand power looms working by steam.

The numbers of the manufacturing population have also largely increased, there being now well over five million persons thus engaged. The value of the output of textile manufactures has more than doubled in the last sixty years; and that of hardware is respectable, though Austria does not actually produce more of iron and steel goods than the little kingdom of Belgium, both having an output valued at nineteen millions sterling in English money. The total value of all Austrian manufactures is now estimated by Mulhall at three hundred and twenty-eight millions sterling.

We have already mentioned that brewing is a very important Austrian industry—we say Austrian, because Hungary's contribution to the total is very small—and Austrian beer has been greatly improved by scientific methods. The output reached in 1870 about two hundred and twenty million gallons, but this has been considerably increased of late years, being now between three hundred and seventy and three hundred and eighty million gallons. This, however, is but a third of the vast totals of the German and the English breweries, nor does the Austrian consume as much of this cheerful drink as the Englishman or the German. Among other manufactures, that of glass is famous, and also—if we can put it under this head—wine, which is greater than that of Germany, but only one-seventh that of France. However, Austria has been making very fair progress in various manufacturing industries, and is certainly more advanced and prosperous than she was earlier in the century.

Of the remaining countries of Europe, Italy shows the greatest progress, one very significant feature being the great increase in the consumption of coal for manufacturing purposes. In the nine years, 1878 to 1887, the amount of coal thus used was trebled. All kinds of manufactures have been greatly improved, especially those of cotton and silk, and a remarkable impetus has been given to industry during the latter part of the century in nearly all branches. The manufacturing element now numbers about four and a half million persons out of a total population of about thirty-one million, so that it forms by no means an insignificant fraction.

On the other hand, Spain has allowed her manufactures to decline very seriously during the century. Even if Spanish manufactures had remained stationary, this would practically have been the same as retrogression when compared with the general advance that has taken place in every prominent country in Europe. But some economists are inclined to think that Spanish industries, so far from merely remaining stationary, have positively gone back. Certainly, when we read that there are now only three thousand silk looms in all Spain when, as far back as the sixteenth century, there were sixteen thousand, we realise how seriously the national industries have decayed. Or again, there are only some fifty-three thousand operatives engaged in Spanish cotton mills; and the value of the total textile manufactures is not two-thirds that of Italy. Yet Spain has very much the same advantage as that country. On the other hand, it is pleasant to notice that the mining industry in Spain has grown tenfold since 1863, though this is really due to the increase of all metal manufactures in other countries, which absorb much of the metal produced from Spanish mines.

Spain does not manufacture much of the metal which she extracts, and many of her mines are financed by foreign—chiefly English—capitalists. The production of iron has risen from only one hundred and seventy thousand tons of ore in 1863 to now nearly seven million tons; copper from one hundred and forty thousand to nearly three million tons; and lead from two hundred thousand to seven hundred thousand tons. There is also about six times as much coal dug as formerly. Perhaps if foreign capitalists were encouraged to aid Spanish manufactures as well as mines, the former would begin to revive once more. At present, the country is in a stagnant condition, and evidently needs some reviving and progressive influence.

Of other European countries, few possess manufacturing industries of much importance, except perhaps Switzerland, which has done very well for its size, especially in laces, watches, and railway material. The Scandinavian countries have a very small output, though Sweden has attained a worldwide reputation for cheap matches. But the essential condition of modern industry is plenty of coal and iron, and no country which does not possess these in abundance can hope to progress very far when compared with countries like Germany or England.

CHAPTER LVII.

PROGRESS OF MANUFACTURES IN THE UNITED STATES.

But the manufactures even of these two last named great industrial nations pale into insignificance compared with those of another and more formidable competitor for the world's custom. The greatest manufacturing nation of the end of the nineteenth century is not to be found in the Old World but the New. It is to the United States of America that this proud position must be assigned. Writing in 1887, Andrew Carnegie, himself a typical example of a great industrialist, said in his book, *Triumphant Democracy,* "No statement in this book will probably cause so much surprise as that the young Republic, and not Great Britain, is to-day the greatest manufacturing nation of the world, for she is generally credited with being great only in agriculture." If this was true in 1887 it was still more true in 1897, and as years go by it will lose none of its actuality.

There are few things more remarkable than the amazing rapidity with which the United States have come forward as a manufacturing nation, not, we may say, during the century, but during only half of it It is since 1850 that this extraordinary manufacturing development has begun. It seems as if the American people had suddenly awakened to the immense possibilities which lay before them in this branch of industry, and to the magnificent resources with which their country provided them for manufacturing purposes. The product per inhabitant was in the year 1830 estimated by Mulhall as less than two pounds English money. In 1840 it was only about five pounds, and in 1850 about nine. But thirty years later it had risen to twenty-two pounds, having very nearly doubled itself in the twenty years since 1860, when it was twelve pounds. At the present time it must be somewhere about thirty-two pounds per head—already a very considerable increase upon the figures of twenty years ago.

Of course it must be remembered that the United States have been singularly favoured in manufacturing industries. Their position itself, far removed from any competitors, is a great help to their manufactures, even though the European makers have had a start in supplying the American market. Then again they have the advantage of learning from the English all the inventions and discoveries which created the industrial revolution which began in the eighteenth and has gone on so rapidly in the nineteenth century. They did not, like the English, have to learn all these things as best they could, by experience that was often costly, but they were able to see at once the best English and European inventions, and to profit thereby. They were able to pass rapidly over the first years of toilsome experiment, and step at once into the ripe experience of European mechanics and engineers. True, the American manufacturer had the brains to assimilate rapidly the experience thus gained by those others, and even to improve upon it, but those who so glowingly describe American progress—which is indeed magnificent—must not forget that it would hardly have been possible but for the example and experience which lay before them in the old country of England.

Nevertheless, making all allowances, the growth of manufactures and of mining in the United States has been most remarkable, not only in textiles and in hardware, but also in many minor industries. Much of this increase has been due to improved methods and the utilisation of modern machinery, so that the annual product of each manufacturing operative has risen to a proportion altogether beyond that usual in European countries. Taking textile industries first, we find that the manufacture of cotton has proceeded by leaps and bounds, and although it does not quite rival that of Great Britain even now, the figures of its progress show how steadily the American cotton manufacture has extended. In 1830 the consumption of cotton in the United States was fifty-two million pounds (weight); thirty years later, it was almost eight times as much, and in 1870 was quite ten times the former figure (five hundred and thirty million pounds). Or again, if we take the consumption of fibre, which is perhaps the fairest test of textile progress, we find that the United States use in their cotton mills about six hundred thousand tons of cotton annually, as compared with seven hundred and ten thousand in Great Britain. We do not find, however, that there has been such a rapid increase since 1880, as there was before that time, for, of the total American cotton crop of 1897, about thirteen hundred million pounds weight was retained at home, as compared with a thousand million in 1881; but as the total cotton crop of 1897 was a thousand million pounds heavier than that of 1881, the proportion retained for home use was really not so great.

In the same way the American woollen trade has progressed very greatly, especially between 1860 and 1880, during which period it increased threefold. In 1880 the United States manufactured not very much less wool than the United Kingdom (three hundred and twenty million pounds in the States, as compared with three hundred and thirty-eight million in the British Isles); but at the end of the century we find that the States have exceeded England in their annual consumption of wool fibre, for they use two hundred and seventy thousand tons of wool, as against the British total of two hundred and thirty thousand. We also find that the carpet trade, which is of comparatively recent origin in the States, has developed very rapidly, and it is noticeable that in this, as in many other textile industries, the Americans have been able to secure the services of many skilled operatives, who have left the mills of the Old Country to proceed to those of the New.

But of all the list of American manufactures, perhaps the most surprising progress has been made in iron and steel. Here again it is only in the last half century that the United States have come forward as great producers of these metal wares. Indeed, by far the greater portion of the progress made has been the work of the last thirty years. In 1870 there were only sixty-four thousand tons of all kinds of steel made in the States, of which only forty thousand were Bessemer steel, and the States ranked much below France and Germany in the manufacture of this article. Yet ten years later they produced more than both these countries put together, and as early as 1882 the produce of steel was one million two hundred and fifty thousand tons. At the present time the United States head the list of steel-producing countries, producing over six million tons annually, as compared with three million eight hundred thousand tons in Great Britain and about two million in Germany.

But the States do not export by any means so much of this article as does Great Britain, for in 1895 the value of British exports of hardware was five times more than those of the United States, and it is evident that most of the American hardware products are consumed in the States themselves. But after all, the metallic industries of America are only in their infancy, for no country in the world seems to contain such vast stores of iron ore and of coal, and these enormous resources have as yet been only partially developed. If full advantage were taken of them there is very little doubt that even the present pre-eminence of America in this department would become more and more strongly marked.

It is impossible in the space at our disposal to mention separately every manufacturing industry, but we may point out one or two, which may be regarded as typical of the country, and may also call attention to certain features which appear in nearly all branches of American industry. Thus, one industry peculiarly American, which the States share in common with Canada, is the timber or lumber trade, to which the vast forests of the great continent naturally attract a large share of industrial energy. The three States in which the timber is chiefly cut are those of Michigan, Wisconsin, and Minnesota. It seems to be impossible to give accurate statistics of the amount of timber cut, or the area devoted to forests, but those of the South are said to be four times as great as the forests of the three States just mentioned, and other forest areas are being opened up in Washington Territory, Oregon and Northern California. Mr. Andrew Carnegie points out that there are vast regions in America where the raising of timber is the only cultivation possible, and others where trees can be more profitably grown than anything else. So that there need be no fear as to the diminution of available timber or of the destruction of the forests. We need hardly in this place say much about the varieties of American timber. They are now well known in every civilised country. Many million feet of ash, maple, mahogany, walnut, oak, and less known varieties are exported from every American port.

Then again, a peculiarly American industry is that connected with the export of meat, both alive and dead. For many years past, the food markets of the world have been stocked with tinned meats of all kinds, from the great food-producing establishments of the States. Chicago has long ago established its pre-eminence as the largest butcher's shop in the world. The brain reels, and the stomach heaves, at the enormous figures relating to the production of the various kinds of meat killed and exported by American enterprise. American pork, bacon, and hams are sent in millions to all quarters of the globe, while enormous quantities of tinned beef, tongues, and similar edibles are also despatched. In fact the United States are capable of producing far more food than their inhabitants are able to consume, and their surplus products are more and more widely finding their way across the sea to feed the population of older countries. It has been estimated that the country produces food for more than one hundred millions of people, or about 50 per cent above the requirements of its present population.

The normal production of the principal articles of food every year is given as 74 million tons of grain, four and a half million tons of meat, and more than six million tons of potatoes, to say nothing of lesser items. If we look at the production of meat alone, we find it has steadily increased in the last twenty years, in proportion as the energies of farmers, graziers, and exporters were directed to this comparatively new industry, which also owes much of its rapid growth to the wonderful development of ocean traffic. In the twenty years between 1876 and 1896 the production of beef rose from thirteen hundred thousand tons to nearly two and a half million tons, and that of pork from about a million tons to nearly two millions. It is however noticeable that the production of both pork and mutton tends to decrease, whilst that of beef tends to progress.

The most prominent State in the matter of food supply is that of Iowa, which raises 500 tons of meat and five tons of grain for every unit of its population, which is equivalent to nearly five times as much grain and three times as much meat as the average for the whole of the Republic. Yet, although the export trade in meat seems to the spectator in foreign countries to be so large, the quantity exported is not by any means a large fraction of the great total, as the surplus for export is usually only a little more than half a million tons and four-fifths of this is taken by Great Britain alone.

It is even said by statisticians that the United States do not produce by any means the quantity of food which they are capable of growing. The available pasture lands (according to Mulhall) are of sufficient area to support almost three times the present number of live stock, so that the amount of meat produced could be raised without much difficulty to above eleven million tons, instead of the present amount of about four millions.

As for fish, a most useful article of food, of which a fair amount is tinned and exported, it is almost startling to observe that the United States fisheries account for nearly one-third of all the fish caught in the world, but as the Americans consume a large quantity (about twenty-eight pounds per head per annum), there is not so much exported as would otherwise be the case.

CHAPTER LVIII.

PROGRESS OF MANUFACTURES IN THE UNITED STATES (CONTINUED).—MINING.

WE are, however, digressing somewhat from the main subject of this section of our work, which is to illustrate the growth of American manufactures, although the process of converting living cattle and pigs into tinned beef and cured hams may rightly be classed under this heading. Nothing is more striking in the record of American progress than the success with which the citizens of the great Republic have entered upon branches of manufacture with which they were previously unfamiliar. A striking example of this is to be found in the making of watches. It is not very long since, as Mr. Carnegie points out, that nearly every watch carried by an American was imported. The chief seat of watch manufacture was in Switzerland, where labour was cheap, and where watches were made by hand, either in the homes of the workmen themselves, or in small factories. But the inventive skill of American citizens discovered methods by which watches could be made in large factories by the use of machinery for every part, and the result is that watches are now exported by the States in enormous numbers to every nation in Europe. They are produced so cheaply by machinery that it has become impossible for mere manual labour to compete with them, at any rate in the cheaper grades; yet wages are higher in America that in any European country, and it is only the superior skill of the workmen and their ingenuity in invention which has enabled them to achieve so much success.

Another good example of American ingenuity may be seen in the manufacture of boots and shoes, although this particular branch of industry has long been established in the States, and is by no means so recent as that of watches. But here, to quote the words once more of the author of *Triumphant Democracy*, "Machinery seems to have reached its culmination. The human hand does little but guide the material from machine to machine; and the hammering, the stamping and [illegible] are all done by the tireless energy of ste[illegible] no fiction to say that men put leather in[illegible]chine at one end, and it comes out a perfect [illegible] boot at the other. By means of such a machine, a man can make 300 pairs of boots in one day, and a single factory in Massachusetts turns out as many pairs yearly as thirty-two thousand bootmakers in Paris. The old-fashioned cobbler is as surely doomed to extinction as the New Zealand Maori."

This industry also illustrates a noticeable feature in all American manufacture, and that is, the concentration of manufactures into fewer hands than before. There is a growing tendency to the extinction of the smaller makers. It has become more and more the rule for all kinds of industries to be carried on in works of enormous size, controlled by individuals or companies possessing enormous capital. A similar tendency, as is well known, is seen, not only in the production of goods, but also in their distribution; smaller capitalists and smaller factories are swallowed up by the large wholesale concerns, and the small tradesman or merchant has to give way to the large wholesale company.

We can hardly leave the subject of manufactures without some brief notice of the closely allied department of mining and minerals. Like the old country of England, the United States possess coalfields of great value, but their extent far surpasses that of the little Mother Country. It is said that the United States coalfields cover an area of three hundred thousand square miles, as compared with twelve thousand square miles in Great Britain, and these enormous resources have been developed with amazing rapidity in the last twenty years. In 1880 there were about seventy million tons of coal raised in the United States, but ten years later, just double that quantity; and in 1896, no less than one hundred and seventy million tons were raised. Going back to 1870 we find the amount raised was only thirty-three million tons, so that in a quarter of a century the output of American coal has increased four hundred and twenty per cent.

Much of this comes from Pennsylvania, which also possesses valuable deposits of anthracite, which are of remarkable thickness, being in some cases more than three thousand feet through. The cubic contents of the anthracite field alone are said to be capable of supplying the requirements at the present rate of consumption for over four hundred years to come, and there is little doubt that new deposits will be opened up in other States where as yet it is not mined to any great extent. We have already referred, under the heading of manufactures, to the immense quantities of iron produced in the republic, and taking pig-iron as our standard, we find that in twenty years, 1877–1898, the amount produced rose from two million to more than eleven and a half million tons, an increase of nearly sixfold.

Besides the minerals just mentioned, the United States possess many others which contribute more or less to the prosperity of industry. Thus salt, sulphur, gypsum, quicksilver, zinc and lead are all profitably mined, and even some of these which may be called minor industries loom very large in comparison with those of other countries. Thus, the one State of Colorado alone produces twice as much metal as all the lead mines in England, and a single mine in Leadville produces two-thirds of the quantity found in Great Britain. Then again, the precious metals, gold and silver, are found in large quantities in the States, but in later years, the amount of gold produced has not been so great as it was in the five years which followed the great rush of 1851. At that time (1852–56) there were nearly three hundred million dollars of gold mined, and never since has the product reached this high figure, in the last few years being generally two hundred million dollars.

The story of the discoveries of gold in California is almost like a romance, for although in the days of Queen Elizabeth, that great sailor, Sir Francis Drake, had recorded his belief, when he touched at San Francisco, that there was a great probability of finding gold there, it was not till nearly the middle of the nineteenth century (1847) that the actual discovery was made. Even then it occurred accidentally. A saw-mill was being put up on the Sacramento River, when some pieces of gold were found in the tail-race of the mill, and a little further search soon showed that the whole region was auriferous. The rush that followed was one of the great features of American industrial history. Miners from all parts of America, and indeed from nearly every quarter of the globe, poured into California. Just before the gold discoveries, San Francisco was a hamlet with only one hundred and fifty inhabitants; "within a few years it developed into a splendid city of fifty thousand people; its harbour was filled with the fleets of all nations, while the population of the State reached seven hundred and fifty thousand." It was also found that the adjacent States of Nevada and Idaho were rich in gold and silver, and mines of considerable magnitude were worked there also.

As regards silver, it is curious to notice that it was not worked in any large quantities till quite ten years after the discovery of gold. Between 1857 and 1861, only three million dollars' worth were produced, though immediately afterwards the amount rose to nearly forty-five million dollars. Nearly forty years later, the production had reached the vast total of three hundred and seventy million dollars.

We might go on for a considerable length, describing the wonderful mineral resources of the great Republic, but they are too many for our space. It is, however, worth while to notice shortly two other products which, though they cannot be classed as minerals, yet fall into this chapter. These are the extraordinary accumulations of natural gas and natural oil or petroleum.

The discovery of natural gas is thus described by an American author: "A company was drilling for petroleum in Murraysville, near Pittsburg (in 1880). A depth of 1320 feet had been reached when the drills were thrown high into the air, and the derrick blown into pieces and scattered around by a tremendous explosion of gas, which rushed with hoarse shriekings into the air, alarming the population for miles around. A light was applied, and immediately there leaped into life a fierce dancing demon of fire, hissing and swirling around with the wind, and scorching the earth in a wide circle around it. Thinking it was but a temporary outburst preceding the oil, the men allowed their valuable fuel to waste for five years. Coal in that region cost only two to three shillings per ton, and there was little inducement to sink capital in attempts to supersede it with a fuel which, though cheaper, might fail as suddenly as it had arisen.

"But as the years passed, and the giant leaped and danced as madly as at first, a company was formed to provide for the utilisation of the gas. Boring began in other districts, and soon round Pittsburg were twenty gas wells, one yielding thirty million cubic feet a day. A single well has furnished gas equal to twelve hundred tons of coal a day. Numerous lines of pipes, aggregating six hundred miles, now convey the gas from the wells to the manufacturing centres of Pittsburg and Alleghany City and their suburbs. At present gas wells in and round Pittsburg are so numerous as to be counted in hundreds. The number of companies chartered to supply natural gas in Pennsylvania up to February 5, 1884, was one hundred and fifty, representing a capital stock of many millions. Since that date numerous other charters have been granted. More than sixty wells have been drilled at Erie, Pennsylvania. Gas has also been found in small quantities in the States of Ohio, West Virginia, Kentucky, Indiana, Illinois, Alabama, Kansas, Dakota, and California. It is used for manufacturing purposes upon a small scale in eight towns in New York, in twenty-four towns in Pennsylvania, and in five in Ohio, but so far the region round Pittsburg is the only one in which the much-desired fuel has been found in abundance."

Another phenomenon of the same nature as this extraordinary outflow of gas is the flow of natural oil, or petroleum. Before the natural oil was discovered, petroleum was distilled from coal and the price was as much as eight shillings a bottle when used, as it often was, for medicinal purposes. But the existence of natural oil was known to the Red Indians of America, who found it oozing o[illegible]m river banks, and floating on the water, wher[illegible]y collected it by means of blankets, and used it [illegible] mixing with their war-paint. In 1859, a company was formed in Pennsylvania in order to bore for the sources of this product, and many other companies followed this example. In some districts the yield was most enormous, and it became impossible to collect in barrels all that poured forth, and often it was allowed to run to waste as being of little value. A well sunk at Oil Creek, Pennsylvania, in 1859, gave a thousand barrels daily, but the very next year there were two thousand wells at the same place, seventy-four of which gave fifty thousand gallons daily. Down to 1889, more than three thousand wells had been dug in the States, and though only about one well in five struck oil, the total product in thirty years, since the discovery in 1859, reached the enormous total of fifteen thousand million gallons. In 1896 the United States raised more than two thousand million gallons, and the rate of production has been increasing year by year, and shows no sign of diminishing. In order to bring this copious supply more easily to the towns on the Atlantic coast, and to the seaports for the purposes of foreign trade, American ingenuity devised a system of conducting it in pipes like water. About a third of the total product is thus brought down to the coast, and exported.

This brief survey of manufacturing and mining industries of the United States, short as it is, has served to show how extraordinary has been the progress made during the nineteenth century. And yet the progress that we have described has nearly all been crowded into the last half of that century; and even, in the case of many industries, into the last twenty or thirty years. And when we consider the enormous resources in coal, iron, cotton, and many of the other raw materials of modern industries, which the United States possess, we cannot but believe that what we have seen is merely the beginning of vast industrial developments which will make the American people one of the largest manufacturing, as well as the largest agricultural, nations on the face of the globe.

CHAPTER LIX.

COMMERCIAL POLICY OF THE UNITED STATES.

It may not be out of place to conclude this section with a few remarks on the commercial policy of the American Republic. It can hardly be said that this policy presents a great contrast to that of Great Britain. The Old Country has adopted Free Trade, the New Country a system of protection. It is unnecessary to go through all the various changes that have occurred from time to time in American tariffs, but we may indicate some of the general principles which seem to guide American legislation on this point. It seems to be assumed almost as an axiom by American statesmen, that native industries are entitled to reasonable protection against foreign competition. What constitutes "reasonable" protection is of course a matter on which various opinions may be heard, and it is often hard to persuade a protected manufacturer that a reasonable limit has been reached. It seems also to be more or less assumed that the Customs Tariff is the most convenient mode of raising revenue, and is preferable to internal taxation. The experience of British statesmen—apart from the question of free trade—has led them to think that a contrary method is more suitable, at any rate, to the British Isles, which, in proportion to their size, have an unusually large coast-line, lying open to smugglers.

Another principle of American legislation seems to be that unmanufactured articles of general consumption, such as tea, coffee and sugar, should either be admitted free, or very lightly taxed, though raw materials for manufacture are supposed to be fair subjects for taxation, especially as the native manufacturer is already protected by an import duty upon the finished article. The class of goods which always is regarded by the framers of American tariffs as open to payment of very heavy duties is imported and manufactured articles, because they think that these duties injure the foreign producer while they help the American manufacturer. American statesmen admit that their tariffs can never be simple and uniform, or even so simple and uniform as might be the case even under a protective system, because they are compelled to regard not merely the exigencies of finance, but also the varying amount of protection needed by different industries.

In our previous review of customs legislation we dealt with the variations of the tariff up to the time of the great Civil War. Since that time there has been very little change in the general principles or methods of customs legislation. Immediately after the war, the requirements of the revenue led to the imposition of very heavy taxes on home-made, as well as foreign, foods. Almost every article, says a writer on this question, was taxed, in many cases at every stage of its production; while to compensate native producers, extra charges were put on imported goods. Thus the tariff of 1862 raised the average rate on articles paying the Customs Duty to 37 per cent, while two years later, the average rose to 47 per cent.

At the close of the struggle between the North and South in 1865, the position of the United States (the same writer remarks), so far as taxation and debt were concerned, was very similar to that of England half a century before. In each case, the system of taxation was complicated and severe, and pressed heavily upon all the ordinary requirements of the population. Just as Great Britain also, when it began to reduce this taxation, moderated the internal taxation first, so, too, the United States commenced their reduction with the internal revenue. This had the effect in many cases of still further increasing protective duties on foreign articles. Some reductions were made in 1870 and 1872, but not to any great extent, though the question was sufficiently important to form the subject of a special commission. The result of this was a new tariff measure passed in 1883, but this does not seem to have done much good. After stating that a substantial reduction of tariff duties had been made, not by a mere indiscriminate popular clamour, but by the best conservative opinion of the country, the framers of the act practically left the greater number of duties untouched, and even in some cases raised them higher.

This tariff of 1883, however, did not succeed in settling the question of tariff reform, which increased in prominence on account of the large surpluses which the duties brought in. This difficulty of the surpluses caused some discussion, and the proposals for removing them differed. The Protectionists wished merely to remove the duties which were imposed solely on account of revenue, leaving untouched those proposed for reasons of protection, while the advocates of tariff reform proposed a reduction of manufactured articles, and the free admission of raw materials.

After considerable agitation on both sides there was passed in 1890 what is usually known as "the McKinley Tariff," thus named after its proposer, who became President in 1897. In this tariff, although a large number of duties remained unaltered, or had a very small increase, and others, such as raw sugar, were admitted almost free, much higher rates were placed on a large group of commodities which were thought to compete with American products or manufactures. Thus the duty on foreign tobacco was raised from eight per cent to fifteen per cent, while the duty on that of American growth and manufacture was reduced by one-half. Agricultural products were charged five per cent more than formerly; flax, hemp, and jute 25 per cent. A notable increase of duties was also made on wool and woollen manufactures, the rise being about 33 per cent, while metals and metal manufactures suffered an increase of nearly 36 per cent. Ready-made clothing, a great feature of American industry, had import duty raised five per cent, and the finer linens, laces, and embroideries were charged even more.

The general aim of the McKinley tariff is thus seen to be a decided increase in the severity of the protective system, as every effort was made by its promoters to encourage American industry, and check foreign, chiefly European, competition. Nor has the general scheme of the tariff been very greatly altered in recent years. It seems improbable, that while manufacturing industry continues to progress in the United States as rapidly as it has done in recent years, that any sweeping changes will be made in American commercial policy. The fact is, that the United States, owing to their large area and their comparatively homogeneous nature, as compared with European nations, do actually enjoy a large measure of free trade within their own borders, and thus do not suffer by any means so much as a small country would undoubtedly do.

CHAPTER LX.

THE PROGRESS OF INTERNATIONAL COMMERCE.

The increase of commerce between the various nations of the world, both civilised and uncivilised, during the nineteenth century, has undoubtedly been the greatest that mankind has ever seen. We have already recorded the progress of the chief nations individually, and in this section we must endeavour to gain some idea of the extent and variety of commercial relationship between one country and another.

If we go back a little further than the limits of the nineteenth century and take our comparison from the beginning of the eighteenth, we find that international trade has actually increased fortyfold. Or, if we take the nineteenth century only, we find that nearly all through the last hundred years it has been increasing about six times as fast as the population. Between 1830 and 1850, commerce is estimated to have increased 124 per cent, but since 1850, no less than 286 per cent and possibly more.

The cause of this remarkable increase, in international as distinguished from merely internal commerce, is of course primarily the increase which has occurred during this century in the facility for communication between one country and another. To this we have already alluded in one or two previous sections. But the slow, heavily moving wagons of former days, the lumbering coaches, and the strings of pack-horses, have long since given place to the iron steeds and the steel-laid track of the railway. Even the merry mail-coaches, with their picturesque drivers, and their guards with the far-sounding horn, were soon superseded by the locomotive and the express train. Here and there on the continent of Europe, or in some of the remote parts of the British Isles, or the sparsely inhabited districts of new colonies, these survivals of the old days, or conveyances of the same kind, still remain. Many people still living in America can remember the express-riders, who used often, at the point of their lives, to dash across to the great Far West, on fleet ponies, doing their short stages at full gallop, with never a pause.

But these too have passed away, and through the solitudes where the express riders met nothing but the sly coyote or the stealthy Indian lurking for his life, there rattles still faster the luxurious express-car, filled with all the comfort of a modern hotel. And faster still flies the message borne by the magic power of electricity along the narrow wire passing untrammelled by any human agency over mountain and valley, roaring torrent and placid stream, through deserts and sandy wastes, or richly tilled fields of fertile earth, over the land and under the ocean, bearing the message of him who sent it, in an instant of time. The telegraph and the railway have revolutionised modern commerce as much as machinery and the mill have done. There has been a revolution in transit and in the means of communication, as wholesale and as complete as the revolution in industry which we have described in our earlier chapters.

Nor has this revolution in transit and communication affected merely the growth of commerce in any particular country, or in any individual nation. It has brought each nation closer to the other; it has enabled the farmers in the Far West of America to feed the citizens of the farthest cities of Europe; it has brought the merchandise of the Lancashire manufacturers to the homes of countless millions of the Far East and the Far South, who once were only dimly known to the people who now sell them their goods from the vague tales of daring travellers. It enables the merchant of London to hear through the telephone the quotations of prices in Paris, at any moment he chooses to ask for them; it enables the buyer in New York to flash his wishes to the seller in any capital of Europe, or, indeed, in any part of the civilised world, with but the smallest delay. Thus the opportunities for meeting the wants and supplying the necessities of civilised man have become more and more easy because those wants are so readily made known and because the commodities required to supply them are so easily transmitted.

It is this readiness of transmission to which we must now devote a few sentences. We have already spoken of the beginning of communication by railways, and we must now say something of the communications by sea. We must pass over the early attempts already alluded to, made by various inventors to propel sea-going vessels by steam. Our readers will remember that it was only at the beginning of the nineteenth century that these attempts were made. Although we have mentioned the steamer *Sirius* and the *Great Western* as the first vessels to cross the Atlantic from the Old World to the New, it must not be forgotten that one vessel worked by steam had already crossed the Atlantic to England from the American side. This was the

Royal William, which crossed from Nova Scotia to the Thames in twenty-two days, but she was utilised afterwards not in the peaceful interests of commerce but as a war ship in the service of Spain.

The *Great Western* and the *Sirius* were the two first steam vessels which crossed and recrossed the Atlantic for purely commercial purposes. Their first voyages took place in 1838, but in the next year the Bristol and North American Steam Navigation Company, which had despatched the *Sirius*, sent from Portsmouth (July 12) another steamer called the *British Queen*. This vessel, using six hundred tons of coal, carried a crew of a hundred and a cargo, then valued at one and a half million pounds. She did her outward run in fourteen days eight hours, and afterwards made several other voyages, but as they did not pay, she was sold to the Belgian Government. Meanwhile the owners of the *Great Western*, calling themselves "The Great Western Steam Navigation Company," continued to run a service from Bristol, and a third company, called the Transatlantic Company, started from Liverpool. Somewhat senior to these ocean companies was the City of Dublin Steam Packet Company, which is worth mentioning here, as being now the oldest steam navigation company in the world, dating back to 1823.

These early companies formed for promoting the services to cross the Atlantic were not a success, but their failure did not entirely deter others, for we next have to record the formation of the famous Cunard Company. The founder from which this company takes its name was Samuel Cunard, who was an agent for the East India Company at Halifax, Nova Scotia. He had been conducting the local services between Boston, Newfoundland and Bermuda, which were worked by sailing vessels, but he evidently understood the requirements and possibilities of steamer traffic and managed to secure the contract for a monthly Atlantic service of four steamers, subsidised to the extent of eighty thousand pounds per year. The first of his vessels carrying the mails across the Atlantic was the *Britannia* in 1840.

Meanwhile the Peninsular and Oriental Company, which owed its origin to the development of the Spanish and Portuguese traffic of the City of Dublin Company before mentioned, had begun the mail service as far as Egypt in 1839. In the same year the Royal Mail Steam Packet Company took over the mails for the West Indies, and next year, 1840, the Pacific Steam Navigation Company sent two seven-hundred-ton steamers, the *Chile* and the *Peon,* which were the first steamers to pass through the Straits of Magellan into the Pacific Ocean. Seven years later (1867), the Pacific Mail Steamship Company, an American line, began to run boats between Oregon and Panama.

The middle of the century (1850) was marked by a new feature in steam propulsion, for, in that year, Wm. Inman, who founded the famous Inman line, began his service of screw-steamers from Liverpool to Philadelphia. From that time forward, the screw propeller began steadily to come to the front, and now it is used by all ocean-going steamers.

CHAPTER LXI.

THE PROGRESS OF SAILING AND STEAM NAVIGATION.

Before leaving this portion of our subject we might refer to the improvements which were made in the early part of the century in sailing vessels. Just as, not long before the advent of the railway and locomotive, a great improvement was noticeable in the service of mail coaches, so, too, the first half of this century was distinguished in ocean traffic by very great progress in the building of sailing vessels. Indeed, the performances of the best sailing vessels were for a time not very much inferior to those of ships propelled by steam, until progress in steam navigation rendered the competition of sailing ships impossible.

It is true that, before the days of steam ships, a voyage across the Atlantic often took one or two months; but on the other hand a fast sailer could do the distance under favourable conditions in a fortnight or less. Thus, in 1854, the *Redjacket* sailing clipper crossed from New York to Liverpool in thirteen days, and another called the *Lightning* even did the distance in a little less time. But the most remarkable performance was that of the *Dreadnaught* (1413 tons) which actually sailed the distance between Sandy Hook and Queenstown in the astonishing time of nine days seventeen hours. This was in the year 1862. But probably the fastest sailing vessel ever known was the celebrated clipper *Thermopylæ* of the Aberdeen line, which ran between London and Australia, and in 1868 performed the voyage between London and Melbourne in sixty days. Nor was this an isolated performance, for in 1870 she again did it in only a few hours under the same time.

This remarkable vessel travelled two thousand miles in one week, and sometimes three hundred and eighty miles in one day. Another vessel belonging to the same owner, called the *Patriarch*, made the record sailing passage of sixty-eight days between London and Sydney. It seems almost a pity that these fine vessels should be so quickly doomed to disappearance, but of course performances like these were the exception rather than the rule, and sailing vessels cannot defy the winds and the waves and maintain the same steady progress as those worked by steam.

No history of the development of ocean traffic would be complete without some mention of the celebrated steamer, the *Great Eastern*. This ship attained the enormous length of six hundred and eighty feet, with a width of eighty-three feet, and was launched at Milwall in 1858. She combined the paddle-wheel system with what was then the new screw propeller, having seventeen hundred horsepower for the former and a thousand for the latter. But this did not give by any means sufficient strength to manage and drive her huge bulk. She made several voyages to America, but never paid sufficiently, though in 1865 she was engaged in a most useful piece of work in laying the Atlantic cable. She was finally sold for exhibition purposes, and then broken up.

A larger vessel, however, than the *Great Eastern* was launched at the end of the century, when the *Oceanic,* the second vessel of that name belonging to the same line, was built and launched by the celebrated shipbuilders, Harland & Wolff, to the order of the White Star Line. The *Oceanic* exceeded in size any vessel built or building, having a gross tonnage of 17,247 tons and a displacement of thirty thousand tons. Her length was six hundred and eighty-five feet, by sixty-eight feet in width, and she accomplished her maiden voyage in a most satisfactory manner, and is now running regularly on the Atlantic service.

It will be noticed that the history of the progress of steam navigation falls into five periods. The first was marked by the building of wooden steamers propelled by paddles, and the next by the use of iron instead of wood for construction. The *Persia* (1856), belonging to the Cunard Company, was the first iron paddle steamer, but paddles give way to screws in the third stage of progress, and we find that the Great Western Steam Navigation Company owned the first Atlantic screw steamer as early as 1845, though it was not till some years later that iron steamers with screws became common.

The fourth stage is seen in the building of steel screw-steamers, and here the Atlantic Line had the honour of placing the first steel steamer upon their Atlantic service in 1879. Five years later, the Wilson Line sent out the first boat that crossed the Atlantic with triple expansion engines. Finally, we come to the fifth stage, that in which the twin screw is used, and here the Inman Line and the American Line divide the honours between them, in 1888, with the *City of New York* and the *City of Paris.* These two lines were afterwards amalgamated.

CHAPTER LXII.

THE GREAT OCEAN LINES OF THE WORLD.

It may be of interest to add a few notices of some of the great steamship lines of the world at the close of the nineteenth century. We may take as typical of the Atlantic traffic the Cunard and the American Companies, both of which have an honourable and distinguished record. A full history of the Cunard Line would fill several chapters, if not a whole volume of this series, but we must try to compress the salient features of its progress into a few sentences. We have already noted its origin, owing to the enterprise of the founder from whom it takes its name. The pioneer steamer of this line left English for American shores in 1840, carrying among its passengers the novelist Charles Dickens. This was the *Britannia*, a vessel of some two thousand tons burden and only seventeen hundred and forty horse-power, and was built by D. Napier, of Glasgow. Napier and Burns, of Glasgow, with McIver, of Liverpool, united with Mr. Cunard to float the company, which afterward became so famous, with a capital of £270,000. The history of the company is one of continued and steady progress, and it may boast that it has hitherto (1899) never lost the life of a single passenger. Yet the Cunard Line succeeds in combining safety and comfort—in fact, luxury—with a high rate of speed, for it made and holds the record for rapid passages between Liverpool and New York.

The quickest crossings have been those accomplished by the two celebrated twin ships, the *Campania* and *Lucania,* each of which are of nearly thirteen thousand tons burden (12,950 tons). They were built by the Fairfield Shipbuilding Company, and are subsidised by the British Government for services as fast armed cruisers. They are provided with a duplicate set of triple expansion engines, capable of no less than thirty thousand horse-power. Their fastest passages have hitherto been as follows: Westwards, the *Lucania* crossed in five days, seven hours and twenty-three minutes, and the *Campania* in five days, nine hours and six minutes; eastwards, the *Lucania* in five days, eight hours, thirty-eight minutes, and the *Campania* in five days, nine hours, eighteen minutes; thus giving an average speed of twenty-two knots to the *Lucania* and only a quarter less to the sister ship.

The American Line is the only company of all the Trans atlantic lines which floats the flag of the Great Republic. It began in 1871 as the International Navigation Company, being, however, amalgamated with the Inman Line in 1885. This line calls all its steamers by the names of cities, and the *New York* and *Paris* were in 1893 solemnly naturalised into the United States register. The best boats of this line, like the Cunarders, can be used in time of war as fast armed cruisers; and were in fact so used in the Spanish-American war of 1898.

Of the remaining great ocean services of the world, mention must be made of the almost historic line which bears the name of the Peninsular & Oriental Steam Navigation Company. This company dates back to the year 1825, and before it received the contract for carrying the mails to the Far East, they had been taken by sailing packets run by the post-office from Falmouth to Lisbon, and there met the homeward-bound mails, while the Indian mails were taken in Government steamers from Bombay to Suez. From Suez they had to go overland to Alexandria. From Alexandria the steam packets of the Government carried the mails to Gibraltar, where the Peninsular Company met them. But a better service was afterwards instituted, and a direct service from England, via Gibraltar and Malta to Alexandria, was begun by two vessels. In 1842 the Peninsular & Oriental Company secured the contract for the mails between Suez and Calcutta, and by 1854 had engaged to run to Singapore and China. This company also undertook the service to Australia, which was interrupted by the Crimean War, and, after it had been attempted for some time by another company, took over the Australian service entirely in 1859.

It has been well remarked that the history of the Company from that date will embrace most of the salient features in the modern history of shipbuilding, marine engineering, and the modern transport by steam of mails, passengers and merchandise. It is highly creditable to the management of this famous company that the mails are invariably ahead of the contract times, whilst a glance at the times thus allowed will give our readers better than almost anything else an accurate impression of the rapidity and convenience with which the great ocean highways of the world are traversed by modern steamers, and how every quarter of the globe is brought into close communication with every other.

Thus we find that only fourteen and a half days are allowed for the Indian mails from England to Bombay, though the *Caledonia*, a vessel of seven thousand five hundred and fifty-eight tons, has actually landed the mails at Bombay within twelve and a quarter days from London. Of course the mails go overland as far as Brindisi, but the steamer's own passage from Plymouth to Bombay was less than seventeen days. The Egyptian service of this company is also remarkably swift, mails being delivered in the land of the Pharaohs only four days after leaving London. The mail contract from England to China (Shanghai) is thirty-three days, and for the Australian service as far as Adelaide thirty and a half days. Few facts of modern commercial progress are so significant as this change in the means of communication with these far distant markets, for now the time occupied is reckoned about as many days as formerly weeks.

We must pass over many other famous lines belonging to English companies, only pausing to mention the fine vessels of the Castle Line which ply between England and the Cape of Good Hope, and cover the distance in a little more than a fortnight. Though Great Britain has hitherto been supreme as regards ocean traffic, it is noticeable that in the last quarter of the nineteenth century other nations have begun to rival her in this field. France possesses the well-known "Messageries Maritimes," which dates from about the middle of the century (1851). It carries the French mails to Italy, Egypt and the Levant and the Mediterranean and Black Sea ports generally, and since 1861 has carried the India and China mails, as well as those to Australia, New Caledonia, Zanzibar, Madagascar and Arabian ports.

It also runs a line to Brazil and the River Plate. Altogether it has a fleet of sixty-six splendidly appointed steamers, which possess amongst them a total tonnage of a quarter of a million tons.

The second largest company in France is the Compagnie Générale Transatlantique, established in 1862, which runs a fleet of fifty-six boats from Havre to various African, West Indian and American ports.

It is Germany, however, which at the close of the nineteenth century possesses the largest mercantile fleet in the world, at any rate as regards carrying capacity. The Hamburg-American line has a fleet of seventy-five ocean steamers, including twenty-two large twin screw passenger boats, with a total amongst them of no less than four hundred and twelve thousand tons. This company began in 1847 a Transatlantic service with the *Deutschland,* a boat of only seven hundred tons burden, and just after the middle of the century had only five more vessels like her. The entire fleet of the Hamburg-American Company could at that date only carry twelve thousand tons of freight to New York, in one year, whereas now a single vessel of their fleet, the *Pennsylvania,* carries as much as this in one voyage. Here we have a striking example of the progress of navigation and shipbuilding made in the latter half of the nineteenth century. The latest vessel of this fleet is the new *Deutschland,* the largest ever built in Germany, with a tonnage of fifteen thousand five-hundred tons and thirty-five thousand horse-power.

Another great German company is the Nord Deutscher Lloyd, which dates from 1856, though at first the operations were confined to passengers between Germany and Hull. The first of their vessels to cross to New York via Southampton was the *Bre-*

men, and now this company rivals any of the great English lines in the magnitude of its operations and the magnificence of its vessels. Up to 1894 this company had had many of its ships built in England, but since that time the company have given all their orders to German firms. So remarkable and so rapid has been the growth of German shipbuilding that in 1897 the Vulcan works at Stettin were able to launch the magnificent *Kaiser Wilhelm der Grosse,* which is now supposed to be the fastest vessel afloat on the Transatlantic service. In the last ten years alone the capacity of this fleet has been nearly doubled. It now possesses a tonnage of three hundred and fifty-eight thousand tons.

We have not space to deal with various other steamship companies, which may seem to many to deserve some mention, but we have noticed the above as examples of what has been accomplished in the direction of progress in ocean traffic in the present century, or rather in the second half of it. We see that the four great commercial nations of the world—the United States, Great Britain, France and Germany—are all rivalling one another in their efforts to annihilate distance and reduce to a minimum the difficulties of transit; and there can be little doubt that the twentieth century will witness even greater triumphs in this respect than the nineteenth.

CHAPTER LXIII.

PROGRESS OF INTERNATIONAL COMMERCE.

(1) GREAT BRITAIN AND ITS CUSTOMERS.

But we must now leave the means by which the commerce of nations has been so greatly facilitated, and turn to the progress of international commerce itself. If we glance at the records of statistics we are bewildered by the enormous figures which meet our view; so perhaps at first it will be better to take merely the percentage which each nation has possessed of the total commerce of the world from time to time.

It is noticeable, to begin with, that Great Britain has maintained for the greater part of the century very much the same percentage of the world's commerce that she had at its commencement. According to Mulhall, she possessed in the year 1830 twenty-five and a half per cent, and this, after declining sometimes to twenty per cent, and at other times rising to twenty-five per cent, was in 1889 twenty-two per cent. The tendency, however, must be for the share of Great Britain in the world's trade to decline somewhat in proportion to that of other nations, for it is hardly possible that the various causes which have contributed to render this little kingdom so pre-eminent in the past should remain permanent in the future. Nevertheless, the subjects of Queen Victoria may well be proud that the island kingdom still contributes between a fifth and a quarter to the total volume of the trade of this planet.

No other nation has as yet come within half this remarkable percentage. The three nearest competitors are Germany with nearly eleven per cent, France with about nine per cent, and the United States with over nine per cent. But the British colonies must also not be forgotten, though they can hardly be called competitors of the mother country, for they contribute also another nine per cent to the general total. Thus, if we include the Colonies with the United Kingdom, we find that the trade of the British Empire is very nearly one-third of the total trade of the world—by no means a bad record for the close of the nineteenth century.

It must, however, be anticipated that the trade of the United States and Germany will continue to increase rather than diminish, and there can be little doubt that in course of time the Great Republic will come to rival very closely the present high percentage enjoyed by Great Britain.

Another interesting comparison is to take the commerce of the principal nations of the world, and compare it with their population; for thus we see which nation is most truly commercial. Here we find that the little state of Holland comes out easily first, for its trade averages no less than forty-five pounds (English money) for each individual. No other country comes near this amount per unit, the next country in order of merit being the United Kingdom with between nineteen and twenty pounds. France and Germany, and even the United States, come a long way below this amount, the first and second having about eight pounds per head and the third about five. Excluding Holland, which, though it does so well for its size, yet is too small to take more than a small fraction of the total commerce of nations, we find that the United Kingdom is by far the most active and successful in commerce, compared with the numbers of its population.

Taking this country first, therefore, we may briefly give some of the most salient features regarding its progress in commercial relationships during the nineteenth century. In the year 1800 the trade per inhabitant was only about five pounds sterling per head, or about four times less than it is now. The total exports and imports were worth sixty-five millions sterling then. At the close of the century they amount to the enormous sum of seven hundred and sixty-four million, an increase of twelve times the earlier figure. This was in the year 1898, the latest for which complete statistics were available at the time of writing; but the year 1899 was remarkable also as a year in which the volume of trade was again enormous. At the end of the century we find that the imports very greatly exceed the exports, being over four hundred and fifty millions sterling in 1898 as compared with less than three hundred millions (£294,000,000 in round numbers). Into the causes of this great superiority of imports we cannot go now; it is sufficient to say that it causes grave concern to some, while others regard it with equanimity as being due to the natural laws of economic science.

The chief customers of Great Britain are of some interest. We find that the United States take fourteen million pounds' worth of British goods, and France about the same quantity. Germany, although supposed to be Great Britain's chief rival, takes more British goods than either of the other two, her share being over twenty-two million. For its size, Holland also takes a large amount, namely some ten million pounds' worth of goods. But the British colonies and dependencies are very good customers, too. India takes very nearly thirty million pounds' worth of British exports, Australia takes over twenty millions, Cape Colony over nine millions, and British North America more than six. Altogether the British possessions took in 1898 just over ninety millions out of the grand total of two hundred and ninety-four million pounds' worth of exports. The imports from the colonies are just a little more than the exports, being in round numbers only half a million less than one hundred million sterling in value.

The United States must find Great Britain a very good customer, for no less than a quarter of the British imports come from them at the close of the nineteenth century. This is largely accounted for by the great quantities of food-stuffs sent from the States, for the British Isles still remain the greatest market for food among civilised nations. Next to the States, we find France sells most to her old friends and foes, for French goods amount to eleven per cent of the imports. Germany only sends five per cent, and of the colonies India sends about five and a half per cent, Australia over six, and Canada over four.

It is pleasing to notice that at the close of the century British trade shows no tendency to decline. On the contrary, during the last decade of the century, it has increased, the volume of trade in 1897 showing an increase of five per cent over the average of ten years ending in 1896, and an increase of no less than sixteen per cent over the year 1887 in value. It is true that the principal increase has been in imports, but as England probably would not receive imports unless, in some way or other, it was able to pay for them, this is not any serious detriment. Still it is somewhat curious that while the imports into the United Kingdom have risen twenty-five per cent in ten years, the exports have only risen four per cent.

The directions which British trade has taken recently are now worth noting. There has been a very considerable increase of trade with the Scandinavian countries, and of nearly fifty per cent with Russia. With the United States, also, England has, since 1887, done a much larger trade than formerly, and also with Canada. There has been an increase of over twenty per cent in the trade with Argentina, and of twenty-six per cent with France, but it is somewhat strange that the increase in the case of Australia has only been fifteen per cent. On the other hand, it is not so surprising that commerce with Germany shows no more than twelve per cent increase, for of late years Germany has been more occupied in rivalling Great Britain than in trading with her. But a general survey of the extent and direction of British trade at the close of the nineteenth century is by no means discouraging, and shows that the increased facilities for commerce in modern times are being eagerly taken advantage of by British merchants.

CHAPTER LXIV.

PROGRESS OF INTERNATIONAL COMMERCE.

(2) EUROPEAN COUNTRIES.

BUT, if we cross the Channel, we do not find that the French have kept pace with these modern developments. While the trade of every civilised nation has been rapidly increasing, that of France has been practically stationary. It has only risen one per cent in the eleven years ending with 1897, nor has it made any greater progress since that date. It is true that during the first ten years of the nineteenth century, the total volume of French trade was only thirty million pounds (English money) in value, as compared with three hundred millions at the end of it; and that this shows a tenfold increase. But this increase is not a development upon the last few years. France reached her three hundred millions in volume some twenty years ago, and has not improved much upon it since, while every other nation has long since beaten its own record of what it did in the "eighties." It is also noticeable that, contrary to the state of affairs in England, French imports have declined while their exports have risen; and it is certainly remarkable that there has been considerable development in the French trade with England and Germany, with neither of which, during the last year or so of the century, France was particularly friendly, while its former trade with Belgium and Spain is declining.

It is to France's great Teutonic neighbour, Germany, that we turn if we wish to see notable progress and development. In 1822 the volume of German trade was estimated as worth forty million pounds in English money; and by the middle of the century (1851) as seventy million. A very rapid increase took place in the next twenty years, for it rose to about two hundred and eighty million sterling in 1872. But also the last twenty years of the century witnessed great expansion. As in the case of various other commercial nations, the imports have shown a much larger value than the exports, but it can hardly be said that this is to the disadvantage of Germany. In the ten years between 1887 and 1897 the imports rose in value from one hundred and fifty-nine million pounds sterling (English) to two hundred and thirty-two million, while the exports rose from one hundred and sixty million to one hundred and eighty-three million. Thus the total trade of Germany was increased in these ten years by nearly one hundred million pounds sterling (£319,000,000 as compared with £415,000,000), while the total weight of the commodities traded in, reduced to a common denomination, rose from thirty-eight to sixty-eight million tons.

The various items of this vast trade deserve some attention. The most important imports, individually, are food-stuffs and raw materials. Of these grain, in the year 1897, accounted for twenty-one million pounds in value which was quite double the quantity of ten years previously; the wool imports came to ten million sterling, the raw cotton to nearly the same amount, and timber to another ten million. The import of yarn had decreased from eight to six million, thus showing that German manufactures were progressing well. Of the exports it is very noticeable that, in the ten years ending with 1897, hardware had increased more than double, the quantity exported being worth twenty-three million sterling then as compared with only ten and a half million in 1886. So, too, cotton manufactures show a decided increase for export, of some three millions, though woollen goods remain about the same. The items of coal and beet-sugar also show an increase; and so do sundries, under which last heading are included many of the small, cheap articles and toys in which German manufacturers excel.

The directions of German trade at the close of the nineteenth century are very well marked. Commercial relations with Belgium, France and Holland, Germany's nearest neighbours, have declined very considerably, while those with Russia and the United States have increased. At present the largest individual customer of Germany is Great Britain, with whom sixteen per cent of the total German trade is done. Next comes Austria, with twelve per cent, then the United States with between eleven and twelve per cent, and Russia with eleven. But German trade with countries not taking singly any great percentage has also increased, and this points to a general extension of her foreign trade. In the last ten years German trade, as a whole, has increased thirty per cent in value and no less than seventy-five per cent in weight. Whether it will continue to increase so much in the near future may be a matter of doubt, but the enterprise and energy of German manufacturers and merchants has shown recently that they by no means intend to be left behind in the international race for a share of the world's commerce. It is certain that Germany is becoming more and more a manufacturing country, and in 1885 a larger percentage of the population was supported by mining, manufactures, and commerce generally, than by agriculture, whereas the time was not very far distant when the agricultural population considerably exceeded that of any other class.

As regards other European countries we cannot now stop to give any comprehensive details as to their general commerce, for we have already dealt with those which may be claimed to rank among the great commercial nations of the world. We may, however, make some passing reference to countries like Belgium, Holland, and Switzerland, which deserve notice because of the magnitude of their commerce compared with their small size. Thus the total trade of Belgium, in imports and exports combined, is only a little under a hundred and thirty million pounds sterling, which is a very good figure for such a very tiny kingdom. A large proportion of this trade is done with France and Germany, both taking over twenty per cent of the total, while Great Britain takes just under twenty per cent and Holland fourteen. No other country has any very large percentage, individually, but in addition to the figures just quoted, Belgium enjoys a very large transit trade which exceeds fifty millions per annum.

Its little neighbour Holland is remarkable as being the only free trade country of Continental Europe, and, whether owing to Free Trade or some other cause, its commerce has certainly developed in a very remarkable manner in the last twenty years. At the close of the century, it was more than double what it was in 1876, imports having risen one hundred and thirty-five per cent and exports one hundred and fifty-four per cent. There has been an increased import of coal and metals which indicates a development of home manufactures, while the colonial trade of Holland has expanded very noticeably at the same time.

Switzerland again is a country whose commercial relations are flourishing. It exports ten million pounds' worth of textile fabrics, nearly four million pounds' worth of watches, and a good deal of machinery. In the ten years from 1886–1896 its trade increased twenty-five per cent, its chief customers being France and Germany. But it is remarkable in the case of these three small countries just mentioned that French trade with all of them has declined, while British and German trade has been improved. This is also the case with Italy, whose trade with Germany is increasing, but with France is declining. Speaking generally, Italian trade has made great progress in the last ten years, and the increased imports of raw cotton and coal give evidence of continued development in home manufactures.

It can hardly be said that the commerce of the dual monarchy of Austria-Hungary has made much progress compared with that of many a smaller and less powerful state. Nevertheless, as in the case of nearly every European country, there has been a great development of manufacturing industry, as is evident from the fact that the import of raw material for manufactures has increased twenty-five per cent. There has been, on the whole commerce of the nation, an increase of thirty per cent in imports and eleven per cent in exports, and of the former three items show very remarkable increase, namely eggs (two hundred and sixty per cent), sugar (sixty per cent) and leather goods (fifty per cent). There is an increasing trade between Austria and Great Britain.

Though the largest empire in Europe, Russia is not one of the great commercial countries of the world. Her total trade, though little more than that of Austria, is actually a little less than that of Belgium, and only half that of Holland. Or, to take another comparison, Russia has a total commerce equal to only one-fifth that of the United Kingdom and one-third of that of the United States. At the same time, the closing years of the century have witnessed a considerable increase upon the figures of the previous years, and though there has been a relative decrease of trade with Great Britain and Germany, which are by far the two largest customers of Russia, this is practically accounted for by the rapid increase of its dealings with China, Austria, Italy and France. There can be little doubt that Russian trade with China and Central Asia will continue to increase considerably in the twentieth century, not only because it is natural, from geographical circumstances, that it should do so, but also because of the progress of Russian influence in the East.

CHAPTER LXV.

PROGRESS OF INTERNATIONAL COMMERCE.

(3) THE UNITED STATES AND SOUTH AMERICA.

If we wish for enormous figures of progress in the department of international commerce we must again turn to the United States, as we have done before in the case of agriculture and manufactures. There we find that in the first ten years of the nineteenth century the total trade of the Union amounted to only about thirty million pounds sterling, and even up to the middle of the century it was only about fifty million pounds per annum. But suddenly it made rapid strides, and in the next ten years (1851–1860) was more than doubled. Then before the year 1880, it was more than doubled again, amounting then to about two hundred and thirty-five million pounds.

At that time very nearly half the total American trade was carried on with Great Britain, which took forty-one per cent of the business done, no other country coming near this large percentage. It is curious that this high percentage has persisted all through the nineteenth century, sometimes rising as high as fifty per cent or even more, but generally between forty and fifty, thus showing that the commerce between the Old Country and the New has been a natural one, and based upon the supplying of mutual wants. But it is significant that this state of things is now passing away, for the percentage of American trade done with Great Britain has during the last ten years of the century showed a tendency to fall off. In 1897 it had declined to thirty-five per cent, and there are no immediate signs of any rise occurring. It is true that no other country approaches this high proportion, the next on the list being Germany with thirteen per cent. But as, some ten or fifteen years ago, Germany only had eight per cent of the American trade, it is easy to see where Great Britain has to fear a rival.

France has only seven per cent of the trade of the States, and Canada comes next with just under six per cent, but it must be remembered that the conditions of Canada are too like those of the Republic to enable any very large commerce to exist between them. Still, there has been a marked increase of trade with Canada recently, and since the year 1884, American business with Canada has increased twenty-two per cent.

There has also been a considerable increase of American trade with the various countries of South America, the years 1892 to 1896 showing an advance of forty-eight per cent upon the previous ten years. Another significant item has been the trade with the West Indies, which has increased enormously, while those islands have done less trade with Great Britain.

The total trade of the United States with all countries of the world is now getting on towards the total of four hundred millions sterling. (In 1897 it was valued at three hundred and seventy-four millions.) This is quite twelve times what it was at the beginning of the nineteenth century, and as this great increase has only taken place in a comparatively recent period, during the last thirty years, it can readily be imagined that the twentieth century will witness yet further progress. Of course, as the American Republic becomes (as it is becoming) more and more of a manufacturing country, it can hardly be expected that it will continue to accept so many goods of European, and especially of British, manufacture, as it has hitherto done, or is still doing; but no doubt trade will find other channels, and the commercial relations of the Old World and the New will develop more and more widely, in proportion as commerce is facilitated by modern methods of rapid transit and communication.

The southern part of the great American continent is very far behind the northern in all that pertains to commerce. Only the trade of Brazil, Argentina, Chili, and Uruguay rises to any respectable total, and of these the State of Argentina has made the greatest progress of late years. This is due to its great agricultural resources, and to the development of quick ocean traffic with European ports, whither it sends vast quantities of live and dead meat as well as grain and wool. Its trade lies chiefly with Great Britain, which takes twenty-six per cent of it, but a respectable share goes to Germany and France, though here, as elsewhere, the latter is losing ground and the former is gaining it.

The trade of Uruguay and Brazil shows some progress, but not very great, and Chili also shows an increase of trade. It is remarkable that all of these countries, so far, have traded far more with Europe than with North America, but the American Republic has gained much ground in the South recently.

CHAPTER LXVI.

PROGRESS OF INTERNATIONAL COMMERCE.

(4) INDIA AND CHINA.

We find a much more satisfactory record of progress if we turn to the commerce of India and the Far East. The development of trade with India, China, Japan and the East Indies has been very remarkable. It is partly the effect and partly also the cause of British enterprise in these regions, and though the last five years of the century have witnessed the arrival of other European nations upon the scene of commercial and political action in the Far East, still, for practically the whole of the century, England was by far the most active commercial power in that quarter of the globe.

It is the old East India Company, now long since defunct, to which Great Britain still owes much of her commerical and political supremacy. We have already seen in an earlier chapter the comparatively small extent of British rule in India about the year 1800; and when we look back on what has been accomplished since then, the record is one of which British politicians and administrators may justly be proud. Here we are concerned only with commercial progress, and must therefore omit any details of the various political events which have marked Anglo-Indian history. Commercially speaking, one of the most important events of history in India was the introduction of communication by steamers with

England and other countries, which took place when Lord Bentinck (1823–1835) was Governor. Then in 1833 a great step was made when the charter of the East India Company was renewed for twenty years, but only on condition that the company should altogether abandon its trading, and allow Europeans to settle in the country.

The administration of Lord Dalhousie, in 1856, was also fruitful in commercial and industrial progress. It was in his time that railways and telegraphs were introduced into India, and cheap postage established, whilst steam navigation with England via the Red Sea, instead of round the Cape of Good Hope, was encouraged. Native industry in agriculture also received great benefit from the opening of the Ganges Canal, the largest irrigation work in India. The great mutiny in 1857 caused the old East India Company to be entirely abolished, and its work taken over by the British Government. From that time forward, progress has been continuous and satisfactory. King Edward VII is now Emperor over a population of at least a hundred and sixty million souls in British India alone, spread over an area of one and a half million square miles, to say nothing of minor dependencies outside these limits.

The trade of India has shown remarkable expansion during the century. Excluding bullion, we find that the total trade in 1815 was valued at ten million pounds sterling, English money, or about half a crown per head of the total population. By the middle of the century it was also trebled, being then valued at nearly thirty million sterling. Twenty years later, this figure itself was more than trebled, the total trade for 1870 being valued at over eighty-five millions, being equivalent to eleven shillings per head of the population, while, at nearly the end of the century, we find the total trade is more than a hundred and twelve millions. During the last forty-nine years the exports of Indian products have exceeded the imports into that country by more than a thousand million rupees, while in the same period the imports of treasure amounted to over five hundred millions. Compared with the two previous years the Indian trade of 1898-9 (the latest for which figures are available) was remarkably prosperous, and the exports exceeded those of any previous year. A very large proportion of the imports are textile fabrics, and another large item is hardware, while sugar, petroleum, and silk are each of some importance. India, however, has begun recently to manufacture cotton cloth for itself, and has one hundred and fifty-four cotton mills at work, containing nearly four million spindles. There are also thirty-two jute mills, with more than a quarter of a million spindles, and it may be surmised that in the future imports of cotton fabrics will not be so large as formerly.

As regards exports, jute, which has been mentioned elsewhere, takes a very prominent place; and so, too, does cotton; while tea, rice and opium all contribute a large share towards the total value of merchandise exported. It is, however, curious to notice that trade with Great Britain has declined remarkably in the last ten years or so, for in 1897 the amount of Indian trade with Great Britain was only 45.5 per cent as compared with 58 per cent ten years before. But the trade with Germany has risen from a ratio of less than one per cent in 1887 to between five and six per cent at the present time. It is noticeable also that the amount of trade with China has been multiplied three times in the last ten years, it being recorded as equivalent to ten million sterling in 1897, as compared with three million in 1887. Here, as elsewhere, German merchants and traders are making rapid progress where formerly they were almost unknown, and are cutting away the trade from the British.

The commercial relations of China with foreign countries are another instance of the remarkable progress of commerce in the nineteenth century—in fact it may be said that it is only in the latter half of the century that China has taken any prominent place at all in the world's commerce, for until 1842 Canton was the only port open to foreign trade. Up to that time trade was strictly confined to a specified number of native merchants, or hongs, who had to be responsible for the conduct of the "barbarians" or "foreign devils" with whom they traded. The customs duties were capricious, the Government officers were extortionate and corrupt, but from the year 1842 a new chapter in Chinese commercial history opens.

This year marked the close of the first war between England and China, caused by the question of the introduction of opium. The opium trade was most profitable to the British-Indian Government. For a chest of opium worth in the market of Bombay only forty to fifty pounds paid a duty to the British Government of £12, 10s., and when sold at Canton fetched £150. There had long been a prohibition by the Chinese Government upon the importation of this drug into Chinese ports, but it had been disregarded until, in 1839, China suddenly enforced it, and seized British opium to the value of three million pounds sterling. The war lasted from 1838 to 1842, and one of its results was that the old restrictions upon trade were abolished, and five ports were opened to the vessels of all nations, while Hong Kong was made a British possession.

A second war took place between China and Great Britain in 1856–57, in which the British were joined by the French. Peace was concluded by the treaty of Tientsing in 1858, which was ratified later, in 1860, when the British and French ambassadors entered Pekin. Again the net result of the war was to give futher facilities for foreigners to trade with China, and new "treaty ports" were opened. Among these was Shanghai, which soon began to develop very rapidly, and has since become a flourishing centre of trade.

The most important of Chinese exports has long been tea, although, as we have seen elsewhere, as far as England is concerned, Indian tea has of late years largely superseded the Chinese leaf. About the middle of the century (1851) we find the quantities of tea shipped from the five treaty ports then open were, in round numbers, asfollows: about sixty-five million pounds weight to Great Britain, thirty-four million pounds to the United States, eight and three quarter million to Australia, fifteen million overland to Russia, and three million to Holland. Less than three million pounds were sent elsewhere, so it will be seen that England and the United States were China's best customers. The total comes to nearly one hundred and twenty-nine million pounds. Later in the century, we find this almost doubled, the figures for 1890–92 being two hundred and fifty-four million pounds, but this was less than a few years previously.

At the end of the century we find that tea and silk still form by far the two largest items among Chinese exports, while camphor and sugar are also sufficiently valuable to be separately mentioned. The chief imports are opium, cotton and woollen fabrics, ginseng and rice. The total foreign trade of China amounted in 1897, the latest year for which statistics are available, to some fifty-four and a half million pounds sterling in English money. The largest single item was formed by the import of cotton and woollen fabrics from the United Kingdom, which accounts for over four million pounds sterling; and it is noticeable that Great Britain alone does sixty per cent of the total Chinese foreign trade, and has done so for many years past. Japan has only eight per cent of her trade, India seven, and the United States eight; but Russia does a large overland trade with China, though Russian political influence is unduly large in proportion to purely commercial interests.

If to Great Britain we add India, Singapore, and other British possessions doing a trade with China, we find that British interests include no less than two-thirds of the total Chinese trade, and no other single country comes anywhere near this proportion. This is perhaps the reason why France, Germany, and other continental nations are so jealous of English influence in China and at the close of the century are seeking to establish closer commercial relationships with that Celestial Empire. Their foresight is no doubt justified, for it is evident that foreign countries have only touched as it were the fringe of Chinese commerce, and that the possibilities of economic development and the foreign trade of the great Chinese Empire are almost boundless. It is certain that the twentieth century will witness the entry of China into the circle of the world's commerce in a far more thorough-going fashion than has ever been the case before, and when the vast population of this Empire takes its place among the commercial nations of mankind, the extent of the total commerce of the world will be very materially increased.

CHAPTER LXVII.

PROGRESS OF INTERNATIONAL COMMERCE.

(5) JAPAN AND THE FAR EAST.

FAR more commercial and industrial than China is the island empire of Japan. Here, again, it is only in comparatively recent years that this country has come forward, and taken a share in the commerce of the world. At the beginning of the century the Dutch alone, represented by the Dutch East India Company, were admitted to trade, while all other foreigners were rigidly excluded.

This monopoly held by the Dutch was an object of envy to other foreigners, and the Americans especially made many efforts to obtain a footing in Japan. In course of time British, French, and Russians as well, entered into commercial relations with the country. Treaties with the United States and Great Britain were concluded in 1854, and with Russia in the following year. Two ports—Nagasaki and Hakodadi—were opened for trade, and later on the British representative obtained an extension of the commerical treaty, and a British consul-general was appointed.

Having received these visits from foreigners, the Japanese themselves proceeded to make the acquaintance of western nations, and between 1860 and 1862 the Japanese embassy visited England, France, Prussia, Holland and the United States. Gradually, in spite of occasional friction, the Japanese became accustomed to European traders, and further ports were opened to European commerce, while quite a colony of European merchants and men of business established themselves at Yokohama, and commerce rapidly developed.

It is curious to notice how greatly certain false ideas in political economy either kept the Japanese back from foreign commerce or caused them to put hindrances in its way, though it must be confessed that it is not only the Japanese nation that has made this mistake, but many western nations have at various times done the same. But the Japanese believed that their country would be the loser if they sent their silk and other produce away from it, and as an example of this it may be mentioned that in 1864, after an abundant crop of silk had been gathered, large quantities of it were intercepted by the Government on its way to the sea because its export was believed to be a dead loss to the nation. Naturally, however, the Japanese merchants, who had engaged to sell it at a high price to foreigners, were indignant at this course. But there is no doubt that the majority of the people approved of the action of the Government. However, it did not take the Japanese, who are an astute race, long to discover that if a country wishes to have a large amount of imports, it must give exports in return for them, and in recent years Japan has begun to take a very marked position in the industry and commerce of the world.

The rapidity of its progress, at least as regards foreign commerce, may be judged from the official returns of the last quarter of a century. In 1876 the total trade of the country only amounted to a little over ten million pounds (English money) in value, the imports being worth five millions and the exports a little more. Twelve years later the total trade was quite doubled, being valued at nearly twenty-two million sterling, while the exports and imports were nearly equal in value. The most valuable export was silk, and next to it rice and tea, whilst copper is also worth separate mention. Imports were mainly cotton and woollen goods and sugar.

Great Britain for the last twenty years or so has held between twenty-three and twenty-five per cent of the trade of Japan, while in 1886 the United States held the large proportion of twenty-eight per cent, though this declined ten years later to only sixteen per cent. But to Great Britain's proportion may be added the ten per cent of trade now done by Hong Kong and nine per cent done by India, so that the whole British interests in Japan would appear to amount to not very far short of half of Japanese foreign trade. France has about nine and Germany seven per cent, so that it will be seen how largely British and American interests preponderate over those of any other country.

Japanese trade is still increasing with great rapidity, being in 1898 valued at over forty-five million sterling in English money, so that it has again doubled, as compared with the previous ten years. Silk still remains the staple export, but fancy goods and coal account for a million sterling each, and rice, tea, fish, copper, and matches are also important. Native industry is largely engaged in the factories for paper and glass goods, porcelain, bronze and japanned ware, and also in silk and cotton fabrics, and latterly in shipbuilding. Large quantities of railway material and machinery are imported from England and America, and it is evident that the Japanese are aiming at encouraging manufacturing industries in their own country, with a view perhaps of buying less from foreigners in the future.

From the foregoing accounts of the trade of India, China and Japan, without mentioning many smaller countries for which no space is here available, it is evident that one of the distinctive features of the commercial history of the nineteenth century is the progress that has been made in the commerce of the Far East. Except in the case of India, where the British have been exerting their influence for a much longer period, nearly the whole of this progress has been made during the latter half of the century. It is only in a comparatively recent period that the vast resources of China, and the industrial energies of Japan, have come under the stimulus of contact with Western civilisation. Yet progress is still young, and we cannot but believe that the nineteenth century has only seen the beginning of great commercial development in the Far East which in course of time may produce remarkable changes in the extent and distribution of the world's commerce. The Japanese, for instance, hold a position very closely similar in the East to that which the English hold in the West. They have shown themselves most skilful and intelligent in learning all that Western civilisation and industry have to teach them. The recent war between Japan and China showed also that the Japanese possess a strong national character, great determination, and great intelligence, as well as mere bravery; and the qualities which were so strikingly manifested then cannot fail to have a marked influence upon their commercial and industrial development also. The Chinese likewise, if not quite so active and business-like as their late antagonists, possess nevertheless almost indefatigable powers of industry, and are keen traders, and when they have become more accustomed to mixing with foreigners, and to receiving new ideas and impressions, as in course of time they undoubtedly will, we may look forward to greater developments there also. Then again the vast population of British India could undoubtedly support a larger foreign commerce than it now possesses, were it not for the poverty-stricken condition in which so many of the people live. Yet as time goes on, and the beneficial influences of English rule succeed in creating a somewhat higher standard of national wealth and national comfort, the Indian peasant will cease to be contented with his present simple requirements, and a larger foreign commerce will result from the necessity of supplying new wants. Thus, both in India, China, Japan, and elsewhere, we may look for a further extension of commerce in the Far East.

CHAPTER LXVIII.

CONCLUSION.

We have now surveyed the various phases of commercial and industrial progress during the nineteenth century, and have seen the great advances made in every department. Agriculture, trade, shipping, manufactures, mining, and the social condition of the people have all come under our notice, and in each we see that the record has been one of progress for the world at large, though possibly one or two nations have gone backward rather than forward. In our glance through the trade and commerce of the globe we have dealt mostly with the older countries, but we have indicated in various places the progress of the new offshoots of these countries which have grown up during the period under review. The various colonies of the British Empire will be dealt with fully in separate volumes of this series, but we cannot leave the record of industrial and economic progress without some reference not only to them but to the colonial activity generally which has characterised the century.

The nineteenth century has undoubtedly been a period of colonial expansion. Much of the vast Empire now obedient to the rule of King Edward VII is of quite modern origin, while the colonial achievements of other European powers, and of the United States, are still more recent. England remains the greatest colonial power in the world at the close of the century, but recent years have witnessed the advent of Germany and France, and even to some extent of Italy, as would-be rivals in the field of colonial enterprise. On the other hand, Spain has lost most of her colonies during the century and has now but a shadow of her former greatness. Early in the century, as we have already noted, the Spanish colonies in South America threw off the yoke of allegiance to their mother country, and at the very close of the hundred years now under review, the Spanish possessions in the West Indies and the Philippine Islands were taken by the United States. Portugal, too, has lost much of her old colonial power, not so much by actual loss of territory, as by decay and mismanagement. France has extended her territory during the century, for her largest colony, Algeria, was only acquired in 1830, and more recently the French have been very active in North and West Africa. Germany is quite a new comer in the colonial field, but, in the short time during which she has attempted colonial enterprise, has acquired a large amount of territory; though it remains to be seen what use she will make of it. But, next to England, the most really colonial power is Holland, which, though small in area, has colonial possessions of great value compared with the size of the little European country which owns them.

A brief survey of the colonial possessions of Great Britain, early and late in the nineteenth century, shows at once how vast their progress has been. It was estimated in the year 1830 that the total population of the (then) British colonies in Canada, the West Indies, South Africa and Australia, but omitting India, was one million eight hundred and seventy-five thousand people only. The wealth of these possessions was placed at some two hundred million pounds sterling, though, as this estimate assigned more than half the total wealth to the West Indies, it was certainly too high. Yet, even with this inaccuracy, the same colonies in the year 1896 showed a population of over thirteeen million, and wealth worth more than two thousand million pounds sterling. Thus the population of these colonies only—and they form by no means the whole of the British Empire—had increased in the years quoted more than sevenfold, while their wealth had increased more than tenfold. This increase in wealth, too, took place in spite of a great decrease of prosperity in the West Indies. It is noticeable that in this statement the wealth of Canada is put down as having increased from some sixty-two million sterling to over a thousand million, while Australia shows the even more startling increase from only three million to one thousand and seventy-six million sterling. Thus, wherever we look, whether at the old countries or the new, we see that the nineteenth century has brought in its train economic, industrial and commercial progress of a very substantial character. Men of every nation have contributed to the vast total of human industry and to the magnificent dimensions of international commerce. Yet we cannot help believing that this progress is only in its earlier stages, and that the twentieth century will witness triumphs of industry and commerce even more remarkable than those of the nineteenth.

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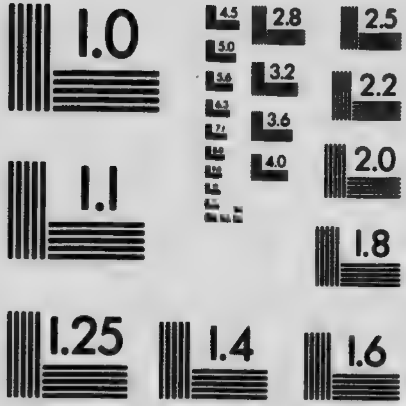

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